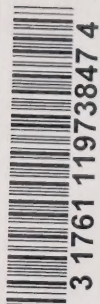


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M-TRAC

for rail safety

Government
Publications

TO THE
STANDING COMMITTEE ON TRANSPORT
HOUSE OF COMMONS
OTTAWA

PROPOSALS TO REVISE AND STRENGTHEN THE RAIL SAFETY ACT

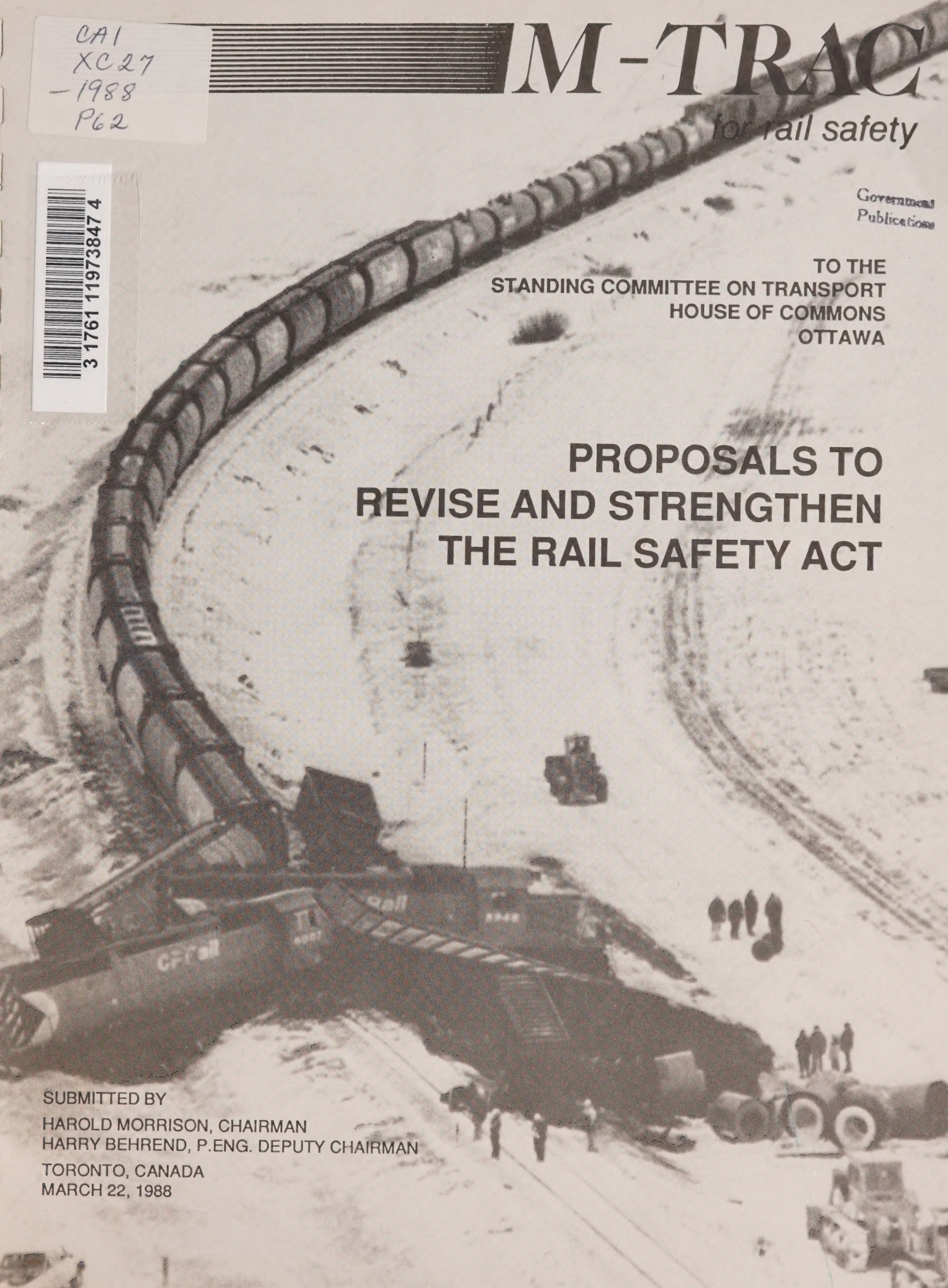
SUBMITTED BY

HAROLD MORRISON, CHAIRMAN

HARRY BEHREND, P.ENG. DEPUTY CHAIRMAN

TORONTO, CANADA

MARCH 22, 1988



M-TRAC is a non-profit Metrowide umbrella organization of ratepayers, residents and other groups who following the Mississauga train derailment joined forces to investigate and advocate rail safety in densely populated urban areas. Members are committed to initiate legislative and other changes necessary to ensure public safety particularly in the transport of dangerous commodities by rail.

We gratefully acknowledge contributions from individuals, groups, municipalities and the Province of Ontario whose support made this and other reports and submissions possible.

Cover: Fatal Train collision near Regina, Sask., January 15, 1988.
(Photo: Canapress)

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M-TRAC

for rail safety

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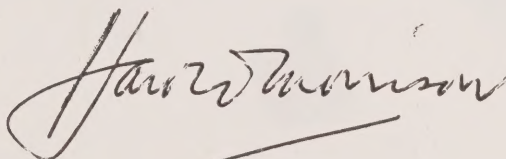
March 22, 1988

Mr. Patrick Nowlan MP
Chairman, and
Members of the Standing Committee on Transport
House of Commons
Ottawa

Dear Chairman and Members:

Herewith our submission proposing changes and additions to strengthen the Rail Safety Act. We believe these changes are necessary to achieve a higher standard of safety and to secure the independence and separation of the safety administration.

Yours sincerely,



Chairman







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TO THE
STANDING COMMITTEE ON TRANSPORT
HOUSE OF COMMONS
OTTAWA

**PROPOSALS TO
REVISE AND STRENGTHEN
THE RAIL SAFETY ACT**

SUBMITTED BY
HAROLD MORRISON, CHAIRMAN
HARRY BEHREND, P.ENG. DEPUTY CHAIRMAN
TORONTO, CANADA
MARCH 22, 1988

"Nevertheless, as the regulator of the nation's railways we are acutely conscious of the fact that railway undertakings are inherently dangerous. It is primarily for that reason that the right to operate a railway is controlled by Parliament and the provincial legislatures."

— Canadian Transport Commission
Decision on Regina application
for rail relocation 1987

INTRODUCTION

The prime purpose of the Rail Safety Act, as we understand it, is to strengthen and improve the quality of safety on Canada's national railways to the benefit of the operators, the users and the public.

Our major perspective is public protection. We realize that we cannot move toward greater safety without considering the costs, along with the benefits, and so our safety proposals must be reasonable and justified. At the same time we do not subscribe to cutting safety corners in order to save a few dollars for the carriers or shippers, or reducing obligations for the federal government.

In our view a safe rail operation is an efficient operation and this has been demonstrated time and again in many parts of North America.

In an age of enhanced competition and rapid transport of huge volumes of lethal and sublethal chemicals, we cannot afford a relaxation of federal responsibilities in safe rail transport, any more than we can afford a relaxation in other forms of transport where devastation may occur in the event of an accident.

When we think of devastation, we are reminded of Mississauga. But there have been others: Livingston, La.; San Antonio, Tex.; Miamisburg; Baltimore; Hinton; Parry Sound and Sucker Lake; and lesser but still potentially serious mishaps in MacMillan Yard and Winnipeg Yard and just the other day at Sarnia (See Appendix A).

The Sarnia accident is surprising. Runaway tank cars in our chemical valley? Surely this is not possible. Yet it happens. A chemical tank car is rammed; it ruptures; explodes and burns. In this case it was isopropanol. In another case it might be chlorine. We cannot afford a gambler's risk. Only the utmost vigilance can be accepted.

Therefore, we see the Rail Safety Act (Bill C-105) as an important piece of legislation, one that should command your utmost care to ensure that safety is enhanced, not diminished or crippled. The public must have confidence that Parliament has given this matter the closest attention and has provided the best safety structure possible.

With that in mind, we were grateful when the Minister of Transport invited our organization to participate in the steering committee to draft the safety bill. We participated in good faith. We made a number of proposals, some of which are reflected in the legislation before you, and some which have been cast aside. As a personal comment, I would like to express my appreciation of the fine manner in which Mr. Victor Barbeau, the Assistant Deputy Minister of Transport who presided over the steering committee, handled the sessions and the complex issues involved.

Nevertheless, we feel there are matters which the Standing Committee on Transport will want to consider. Perhaps it is true, as some people suggest, that the Canadian railways have matured and they should be able to shoulder more responsibility for operating the railways without federal supervision. Over the years, the general run of rail accidents has tended to decline and this speaks well for the railways.

But, unfortunately, serious rail accidents still occur and the risks forecast by qualified consultants indicate the possibility of some terrible disasters that may affect thousands of people unless determined vigilance and strict safety rules are imposed.

When you consider that a chlorine plume from one breached tank car can take as many as 11,000 lives in one metropolitan area or that a ruptured load of butadiene can create a fireball powerful enough to level two or three city blocks, or that a breached load of anhydrous ammonia can do as much damage as chlorine, you naturally would want to weigh the value of all safety measures available and insist that where practicable, they be put into use.

The railways may complain that the public is painting an exaggerated picture and is demanding too much. But they know that safety pays for all parties and without vigilance, the damage can be costly. We only have to consider the 1979 Mississauga derailment and its cost of over \$130 million, or the Sucker Lake derailment of over \$12 million or the Hinton collision and its toll of human life to understand the suffering and damage that may be involved.

Vigilance can be undertaken voluntarily or it can be induced through policing and law. Most industries would prefer self-policing although it may be difficult to achieve public confidence, for example, in any attempt to control drug and alcohol abuse through voluntary measures alone.

A strong Rail Safety Act is essential for the benefit of all parties involved. And as the former chairman of the Railway Transport Committee, Mr. John Magee, once stated, there is no point putting laws on the books if they are not backed up with means of adequate enforcement.

The role of the rail safety inspector will be crucial in the development of good rail safety practices. But he has to be assured of full support from the home office. The entire federal rail safety structure must be firmly based, with policies clearly enunciated and underwritten by Parliament. That, we believe, is the purpose of the Rail Safety Act and that is the basis of our submission that the legislation, as presented to you, is inadequate and cries out for improvement.

A BROADER THRUST

The Declaration in Section 3 of the Rail Safety Act suggests that safety has a role to play in the operation of Canada's railways. But you may have to forgive the courts if, in considering the various principles of operations, they question whether safety is to be given first place, second place or even last place. There is no guidance in this law.

The Declaration is clearly deficient in failing to state clearly that it is the determination of Parliament that safety must be the first consideration in rail operations. There must be no ifs, ands or buts. The priority of safety must be established without any possibility of bureaucratic or judicial confusion.

This can be done simply by changing Line 16 in Section 3 to read: "to the priority of safety" inserting two words "priority of".

The question then arises as to the degree of safety which Parliament intends in this legislation. You will recall the Drummondville, Que., collision of 1986 in which 42 persons were injured. The panel of Transport Commissioners who investigated that accident concluded that "safety deserves a higher place in corporate priorities than Mr. Hogan (Assistant Chief of CN Transportation Operations) indicated when he described the CN system as 'adequate.' "

Is “adequate” safety sufficient? You will also recall the determination of Transport Minister John Crosbie following the Hinton, Alta., collision, also in 1986. He stated he would demand “optimum safety” in the operations of the railways. (See Appendix B). And the need for optimum safety has been supported by findings of a number of federally-appointed consultants who have warned of the potential for disaster unless existing risks are reduced.

The question boils down to this: who is to set the standards of safety and how are these standards to be enforced? We believe standards should be set and enforced by the federal government under laws handed down by Parliament. The standards should be the highest attainable within reasonable budgetary means. To say that the degree of safety in a rail operation is “adequate” is simply not good enough.

While we are assured by the railways that they are adding safety measures to their operations continuously, there is always the possibility of backsliding and cost-cutting and some curious managerial shortcomings, as we have seen at Hinton (see Appendix C), to warrant strong Parliamentary safety demands. We are reminded of the statement by Canadian Transport Commissioners in 1972:

“Among the duties imposed upon it by the Railway Act and the National Transportation Act, the Railway Transport Committee has the obligation of ensuring that all railway operations in Canada are carried out in maximum safety.”

Fourteen years later, in the Drummondville collision investigation, the Transport Commissioners had to remind the railways again that the Commission had the obligation to ensure “maximum and realistic safety for the public.”

This new Rail Safety Act, designed to crystallize the federal obligation to protect the public, makes no specific reference to federal obligations which had been recognized in the past and rather glaringly omits to categorize the essential and paramount role safety must play in our rail operations.

Federal authorities may argue that the bill in its entirety amply portrays safety as the optimum need but for the sake of public confidence and unmistakable judicial guidance, the word “optimum” or “maximum” must be inserted in reference to safety or at least let the public know in some other way that safety must be given the highest priority in Canadian rail operations.

Eventually, through increasing use of technology, the degree of safety may also increase as a by-product and federal measures of supervision and control may be modified. But with the existing known risks, particularly in the transport of dangerous goods and the proximity of rail lines and population densities, Parliament cannot afford to be complacent. We urge you to insist that the overriding importance of safety be written into the law.

SEPARATE AND INDEPENDENT

One of the sharpest complaints of the Railway Transport Committee of the Canadian Transport Commission was that it wore too many hats.

It was the regulator, the investigator, the adjudicator and even on occasion the executioner.

It set the regulations for Canadian rail operations, investigated rail accidents and rendered judgements on the results. And sometimes there was criticism that the announced results did not reflect the inadequacy of the regulations which may have led to the accident in the first place.

There may be the temptation in such agencies to sweep mistakes under the rug; to overlook inconvenient discrepancies and even to play a little favouritism, in the sense of a paternal relationship. Eventually, in the case of the Railway Transport Committee, there came a point of diminishing public confidence.

This time the Rail Safety Act intends that the Minister will administer rail safety and to ensure a degree of independence, will keep it separate from the new regulatory body, the National Transportation Agency.

Separation is important if public confidence is to be maintained. Parliament should not want to see the regulator intruding or exerting influence over the

administration of safety or in the investigation of rail accidents. But how is Parliament to make sure that the necessary separation and independence of these activities are secured?

Section 6 of the Rail Safety Act speaks of agreements of co-ordination between the Minister and the Transportation Agency relating “to the construction, alteration, operation or maintenance of railway works or railway equipment” and we wonder to what extent will this agreement spill over into the field of safety administration.

We understand that unresolved disputes between parties may be referred to the Transportation Agency for arbitration and settlement with the Minister acting as a court of appeal. That may work out well in such matters as assessment of economic costs or contract discrimination but may raise questions of influence if a party finds means of drawing an unattractive safety order into the net of the regulator on the basis of arguable costs.

We may be overstating the possibility of undue influence but unless there is a strong safety administrator in place, the stronger Transportation Agency may influence and dominate the weaker safety structure. And that, we predict, may take place not only in safety administration but also in accident investigation. In rail operations the regulator appears to have an insidious means of spreading his power.

Let's reflect, for a moment, on how the United Kingdom and the United States handle the situation. Britain has a highly-respected Health and Safety Executive (see Appendix D) which performs a variety of functions, including the assessment of risk on regional and municipal transport and construction programs and warning the local authorities what dangers those programs may present.

As far as we can ascertain, nothing like that has ever taken place in Canada. On a number of occasions the Railway Transport Committee simply gave the nod to the railways to proceed with certain works only to find later they had a mess on their hands as local residents rose in anger against a heavy flow of dangerous chemicals at high speeds deep inside their city corridors. Had the Railway Transport Committee considered buffering those rail activities against public risk? Obviously not. You wonder what the RTC did consider, other than giving the railways what they wanted.

In the United States the National Transportation Safety Board (see Appendix E) has a degree of independence envied in many other countries. It reports direct to Congress and it frequently shouts loud and clear when government agencies don't follow its safety recommendations. No government minister in the United States can say it dominates the Safety Board. We would like to draw your attention to one quotation from the U.S. law;

“No Federal agency can properly perform such functions unless it is totally separate and independent from any other department, bureau, commission, or agency of the United States.”

Perhaps we can have something similar in Canada in terms of accident investigations which will be covered by a separate law. But at the moment we have to deal with the Rail Safety Act, under the Minister's power. We urge Parliament to ensure a degree of independence of safety administration by inserting the necessary wording in the legislation.

We can see no reason why there should not be a Commissioner of Safety established within Transport Canada with specific powers delegated to him by the Minister.

This Commissioner might be a senior officer of Transport Canada with other duties relating to ground transport but his powers would flow from the law rather than through an informal internal departmental arrangement.

You will recall that one of the previous Ministers of Transport, pressed by public demands to improve rail safety, appointed an Inspector-General of Transport Safety and it turned out to be a cardboard appointment, with the person selected having no real authority or even experience in the field of rail safety. We would not want that kind of operation repeated.

The specific authority of the Commissioner of Safety would allow him to decide independently whether some rail activity required intense research, supervision or inspection; whether field inspectors were doing their job adequately; whether specific orders should be imposed on a particular rail operation; whether speeds should be moderated in certain locations; and whether breaches of orders and regulations required further immediate action against rail operators, employees or other persons involved.

This Commissioner might be given powers or authority and obligations similar to those exercised by the Railway Transport Committee in the specific field of safety. Establishing such a Commissioner of Safety would help remove argument that the Minister, being a political person, might allow political considerations to influence his administration of rail safety.

It is to the benefit of all Canada that this Rail Safety Act be built on solid ground. Ensuring the independence of safety administration would help provide such a foundation of confidence. It should be made clear that the rail regulator and the safety administrator stand apart in fact and in the law and that the independence of the safety administrator cannot be challenged or compromised.

TOOLS FOR COMPLIANCE

As we have stated elsewhere, you can place laws on the books and still experience lawlessness. It is a matter of enforcing the laws and that goes for rail safety as for any other parliamentary act. The vigilance and determination of the rail safety inspector will be the key to making the Rail Safety Act work. The inspector must not only have the power to act if he sees something wrong but he must be able to act with sufficient authority to make his decisions effective immediately. And that doesn't mean delays by on-the-spot bargaining between the railways and the inspector's superiors.

We believe the Rail Safety Act points in that direction. The legislation does not set out how many inspectors will be available or where they will be located and it is, of course, necessary to observe that an inadequate number of inspectors will raise public suspicion of weakening government intentions. We understand that there has to be a certain amount of government flexibility dictated by the availability of funds. We would urge federal authorities to ensure that funds are not curtailed.

The strategy of an effective safety program requires other tools as well. There must be strong federal determination communicated to the field officers along with an accurate data base, adequate research into accident trends and equipment deficiencies and a recognized channel for communicating with other entities involved in the North American rail system.

We suggest there should be a permanent joint board between Canada and the United States dealing with rail safety, including the development of joint policies and research and rules and regulations — much in the way that we have a joint commission dealing with the Great Lakes.

The daily flow of rail traffic across the Canada-U.S. border is heavy. Canadian tank cars carrying dangerous goods move south and U.S. tank cars move north. There has been criticism that a number of these American tank cars coming into Canada to pick up chemical loads are frequently defective. We have brought this to the Minister's attention and he, in turn, has brought this to the attention of the chemical shippers. We are not certain that defects have been corrected. With deregulation the situation may get out of hand in the United States and Canadian risks may rise as a result.

Accident reports in the United States are deficient (see Appendix F & G). The National Transportation Safety Board has complained about the inadequacy of the American data base but little has been done to overcome the deficiencies. The problem is that the Federal Railroad Administration appears to be quite accommodating for the American rail industry. Now we are moving into a copycat position in Canada. What's good enough for the U.S. appears to be good enough for Canada (see Appendix H). We believe the acceptance of American criteria for accident reporting will mean the loss of vital information on which rail safety research programs might be based. The simple fact is that a lot of rail accidents in Canada will not be reported to federal authorities and the causes of those accidents will be unknown to research scientists.

The railways may argue that filling out accident forms costs money. Filing those forms adds to the cost and many accidents may be just trivial, not causing any serious harm to the public. The other side of the coin is that each accident

may point to a fault which may lead to more serious accidents. Every accident tells its own story. To reduce the number of accidents reported reduces the amount of information available to the inspectors, the investigators and the researchers. Eventually Canada will be in the same position as the United States, operating on an inadequate data base. If the Standing Committee requires more information, this undoubtedly could be obtained from the National Transportation Safety Board. It might even be worthwhile for Standing Committee members to make a trip to Washington to confer with the safety authorities there and judge how American problems might be avoided in Canada.

We must stress again that the Rail Safety Act is not just a means of transferring existing powers from the Canadian Transport Commission to Transport Canada but an appropriate vehicle to overcome existing safety deficiencies and to ensure that Canada is served with appropriate improvements.

TREATING MUNICIPALITIES FAIRLY

In all legislation enacted by Parliament there is the overriding consideration of fairness. There must be an essential balance in the legislation and an aura of justice which the general public can perceive and readily accept.

Rail safety should not be an exception. The risks involved in the transport of dangerous goods affects different regions in different ways and this variation can create an unbalanced view. But on the whole the country wants fair play. Experts have warned the federal administration that certain rail operations can be extremely dangerous to specific populations where lethal and sublethal chemicals are transported at high speed. Should not the legislation provide special protection in these special cases?

We speak, of course, of Metro Toronto where we have particular experience and no doubt these remarks can apply to other communities as well.

Metro Toronto, combining six municipalities, is a major Canadian economic and social unit with total expenditures and tax levies outmatching many of our provinces. Yet when it comes to rail safety, the Metro government is virtually crippled in attempts to get relief for its citizens. It must plead with the federal government for relief from risks which have been documented as extremely high. And sometimes that relief is slow in coming.

In contrast, the national railways have enjoyed and continue to enjoy special privileges and authority carved into the law. The power of expropriation is still in the hands of the railways, even though they have been classified as mature and able to stand on their own feet. We suggested during the steering committee stages of the Rail Safety Act that such power of expropriation should be continued but only with the specific approval of the Minister in each case. Nothing has been done, as far as we can see, to change this age-old railway privilege.

In the Rail Safety Act the railways continue to retain the right to enter adjoining land for the sake of maintaining or improving rail safety operations — and we see nothing wrong in that privilege if rail safety is really involved — but what rights and privileges do the municipalities have to protect themselves against the risks imposed on them by rail operations involving dangerous goods? There appears to be nothing in the legislation to assist the municipalities even where risks have reached intolerable levels.

We believe it is time the municipalities of Canada are given at least the same rights which are available to cities in the United States. If a Canadian municipality demonstrates that certain rail operations are detrimental to public safety in that municipality — and can present legitimate evidence — the municipality should have the basic right to obtain immediate relief.

We suggest there is an element of injustice in the manner in which Canadian municipalities must crawl to their federal benefactors for a morsel of relief from a dangerous situation imposed on local residents without their consent.

Who imposed this risk without advising local authorities? Who protects the railways against local protests? The law that allowed the railways to run high-risk

dangerous goods at high speeds through narrow Metro Toronto corridors was a federal law and that law allowed the railways to set their own speeds. It took a major accident in the Metro area before federal authorities decided it was time to review rail operations and establish new restrictions and new detection requirements.

The law appears to have been one-sided. The onus of proof was not on the party that created the risk but on the party that was the potential victim of that risk. The Standing Committee should review the situation that developed in Regina, where the municipality was dragged into the courts for a period of years because the railways didn't like relocation proposals. And something similar went on in Vancouver where the railways tested the jurisdiction of the Canadian Transport Commission in all stages of the judicial system because of rail opposition to proposed local dangerous goods operational changes.

So we look at this Rail Safety Act and ask ourselves: is this legislation designed to protect the public or is it basically designed to protect the railways against the public? We look at the proposed composition of the Railway Safety Consultative Committee, under Section 44, and note the law orders that the Committee include six members of the rail industry — not random choices of the Minister but membership fixed by law — and we see no mention of public participation, other than that the Minister can select other participants at random, not less than two and not more than four.

Thus, even if the Minister designated four members of the public, the rail industry would always be in the majority. Does Parliament really intend that the rail industry be in the majority on all issues and under all circumstances? What kind of fairness is this?

Surely, there may be local issues where local opinion and local interests should carry as much weight as the rail industry in the consultative process. Shouldn't the law ensure that a balanced public representation be fixed in the text of the law, to include representation from regions and municipalities — not tame cats but sincerely dedicated local representation carrying the full confidence of the populations involved?

The railways may argue that the municipalities are not adequately versed in rail technology and would be unable to contribute much to the consultative process. But we are sure the kind of experienced representation necessary can be found at the local level, perhaps from traffic departments, universities, fire departments and other bodies to enrich the consultative process with proper emphasis on local concern.

We have a unique organization of our own, with an accumulation of technical experience probably unmatched in any community group in any part of North America. We would be able to participate in the selection of suitable candidates for the consultative committee, should we be invited to do so.

But at the very least the law should be balanced. The public has a right to be protected and should have an equal voice at the consultative table. This public right should be written into the law with firm membership in the consultative committee.

PUNISHING THE OFFENDER

There is little to dispute the proposition that humans on the whole don't like to be pushed or forced. They are happier when they follow their inclinations rather than rigid orders. Voluntary restraint is probably more conducive to harmony than mandatory restraint. And in the haulage of dangerous goods by rail we would wish we could rely on voluntary restraint in the production of a good rail safety program.

But unfortunately humans make mistakes or become careless or even negligent. They rationalize certain actions in terms of the priority of their own needs over those of their fellow men. In handling high-risk products chaos and disaster may be the result.

So there is a need for mandatory restraint, backup by the overhanging threat of punitive action.

We are sure that rail workers right across the country will agree with us that an employee handling cargoes of highly toxic chemicals should be competent, alert and in possession of a clean bill of health. Train operations can be dangerous and no doubt contribute to human stress. That is another factor as you will see by studying Appendix I. Some means must be found to ease stress levels.

Those addicted to drugs or alcohol or those in failing health should have no place in the operation of critical transport systems, including rail. On the other hand, if the health of a valued employee begins to fail after years of service, that is no reason to demote or dismiss him. And those who need rehabilitation should get it, with company support.

That doesn't mean that our rail system is filled with drug and alcohol addicts. Far from it. We have had many occasions to see the rail employees at work and we believe they deserve the respect of our country. But in each industry there is always the marginal exception, the small group that fails the test. Some may try to hide their problems, not only among rail employees but also among rail management. A rail manager who fails to provide the employee with proper training and instruction is just as much at fault as the employee who fails to take the proper action to prevent an accident.

Weeding out the offender requires special care. The supervisors should not be able to use the law as a means of picking on some particular employee or group of employees for reasons other than threats to rail safety.

But where there is legitimate offence, the punishment should be quick and severe. The fines in Section 41 of the Rail Safety Act may appear as reasonable deterrents, although we believe it is ludicrous to suggest that a \$50,000 fine against a billion-dollar corporation will be felt as anything more than a mild pinprick. At the very least the corporation fine should be doubled. And we urge the Standing Committee to accept that recommendation.

As a matter of interest, we enclose a reference to punitive action in Ohio (see Appendix J). You will note the concern to intensify fines against carriers and the explicit recognition of the need to protect the public.

There is another point for the Standing Committee's consideration: the offending employee usually gets wide publicity; the offending manager may never be brought to light. The offending employee may be the conductor at the back of a long, heavy train speeding toward disaster. Because of ambiguous instruction the employee is fired after the train ride ends in chaos; the manager who placed that deliberately ambiguous instruction in the employee's hands rides off to retirement in a blaze of glory. The Rail Safety Act may catch some of the offenders; it may not catch them all.

DEALING WITH LETHAL CARGOES

A Rail Safety Act that purports to protect the public would prove somewhat superficial if it did not include a mechanism for permanent relocation of dangerous goods traffic in built-up areas.

We are not talking about removing or revamping rail lines for simple local convenience or social improvements. We are talking about reducing or removing a threat of death and devastation on a large scale.

Lethal cargoes consist of such products as chlorine, liquid petroleum gas, toluene, anhydrous ammonia, hydrofluoric acid (see Appendix K), sulphuric acid, white phosphorus, butadiene and dozens of similar products. The chemical industry keeps producing new products almost every day and many of them are transported from region to region by rail. Rail transport of chemicals can be safe. But we believe such transport must be undertaken with great care and with the least possible risk to populations adjoining the track.

Where in the past railways resisted requested safety measures because of costs involved, municipalities were able to apply to federal authorities for possible removal of the risk by relocating the line into an area where the population density was not threatened or where a buffered corridor could be developed.

The Rail Relocation and Crossing Act may not have been the greatest vehicle for resolving highly dangerous situations but at least the municipalities had a legal means of appealing for federal intervention and federal funding to make relocation possible. Now that Rail Relocation and Crossing Act is to be repealed. And while federal willingness to help fund grade improvements and separations is to be continued elsewhere in the Rail Safety Act, there is no further encouragement of seeking federal help to remove a very dangerous situation from a high density area.

We would urge that Part I of the RRCA be retained and strengthened so that the railways no longer will be able to delay and block relocation through legal loopholes.

The Standing Committee should consider the situation in the City of Regina (See Appendix L). We believe that a municipality has the right to protect itself and has a duty to protect its inhabitants by every means at its disposal. Placing the railways beyond the reach of the municipality through federal laws and jurisdiction frustrates and weakens local means of protection.

In many cases the municipalities did not ask that their busy downtown cores be turned into chemical routes for the transport of dangerous goods from one distant region to another.

That traffic in many cases was imposed on the municipality through federal concessions and federal decisions. In some cases the nature of the cargo hauled changed with changing times and perhaps neither federal or municipal authorities anticipated the change. But that is no reason why measures for reducing or removing the dangers should not be considered by the appropriate federal

regulatory body. The legal means available to the municipalities should be imbedded in the law, in this case, the Rail Safety Act, and to the necessary extent, that should mean continuation of the Rail Relocation and Crossing Act.

The principle of no-gain, no-loss for the railways in relocation also should be retained. If it becomes necessary for a certain rail line to be removed to a less risky corridor, the switch should not cause the railway any loss. A federal contribution to such relocation should be generous, or at the least, there should be a reasonable apportioning of costs among the various parties.

Federal authorities may not like being reminded that the route chosen by railways for the haulage of dangerous goods through high-density corridors was encouraged by federal jurisdiction and expropriation powers bestowed on the railways by federal authority.

It may be that the municipalities also were at fault by allowing populations to spread to railway fences but it would be shortsighted and unrealistic to conclude that cities and towns remain unchanged over the years. Cities grow and federal authorities, who knew what was involved, were less than responsible in failing to warn the municipalities of the risks. These risks are intensified by high speeds, increasing length of trains and now with reduced rear-end train security.

Relocation and rerouting of dangerous goods traffic are in some areas and under some circumstances a necessary part of a sensible rail safety program.

A Rail Safety Act that fails to address that issue and fails to provide a reasonable means of achieving relocation does not provide for optimum safety.

RESTORING THE APPEAL PROCESS

In an age of deregulation and widening chemical usage, the complex and sometimes critical issues involved in rail safety cannot always be left to departmental judgement alone.

On occasion, there must be a means of appeal. To take the matter directly to the courts is a costly adventure, pitting inadequate treasuries against the plentiful resources of major players. How, then, is the matter to be resolved, with justice seen to be done?

Under the old system, a decision by the Railway Transport Committee could be taken to the Canadian Transport Commission Review Committee, and from there, if necessary, to the courts or to the Governor in Council.

The Railway Safety Act does not provide for that process. It appears that the Minister of Transport will, in a sense, act as a high court. If his decision is unfavourable, the aggrieved party presumably can still go to the federal courts but not to the Governor in Council.

We suggest the law needs to be clarified. Perhaps a solution can be found by establishing an ad hoc tribunal or similar body to review the ministerial findings, if very serious issues are involved.

There may be cases where the issues are rather minor and an appeal process would simply cause delays, add to unnecessary expenditures and be open to abuse — as a means of delaying implementation of unwelcomed decisions.

But there may be other matters, some of very serious consequences, which may be resolved equitably or inequitably by the Minister and should be open to further review by an outside party. This would help offset possible criticism that the Minister, in his unique position of authority in the field of regulation and inspection may find himself in a conflict of interest. He should prefer to open the way for another opinion, an extra outside opinion in the final judgement of a very serious matter affecting many thousands of Canadians.

The argument can be made that we already have among the statutes an act dealing with public and departmental inquiries and this might be used to allow further examination of issues outside Transport Canada. The Inquiries Act does call for the appointment of commissioners by the Governor in Council and it does allow for the establishment of a tribunal. It might be possible to insert in the Rail Safety Act a reference to the use of the Inquiries Act as an appeal process.

What concerns us is that if we leave matters as they are, a busy Minister of Transport might refer a particular issue to an advisory panel and simply rely on that panel for his final judgement on the matter.

Such a panel might turn out to be the present Dangerous Goods Advisory Council which, we found, is composed mainly of representatives of shippers and carriers. Since that council was established we have not seen one occasion where this group supported a proposed major rail safety improvement. We regret to say that in our view that body functions mainly to block major changes in rail

operations, including marshalling, designation of dangerous goods and rail speeds in urban areas. We would hope that a widely-based Consultative Committee will take precedence over this advisory council. And we would hope that the Minister's judgements and decisions on very serious issues would be open to review by an outside body.



TRAINS COLLIDE; TWO KILLED — Two crew members were killed January 15, 1988 when a CP Rail locomotive rammed the rear of CP switching train near Regina. Four freight cars and three engines were derailed. See cover photo. (Photo: Canapress)

S U M M A R Y

- Strengthen Section 3. Safety must have first priority in rail operations.
- Ensure independence of safety administration; establish Commissioner of Safety with delegated powers fixed by law.
- Establish realistic database in which every rail accident is identified; co-ordinate effective government-industry accident research.
- Through memorandum of understanding or similar instrument establish Canada-United States rail policy co-ordinating body.
- Retain Part I of Railway Relocation and Crossing Act; recognize the right of municipalities to reasonable protection.
- Ensure balanced public representation in Railway Safety Consultative Committee.
- Proposed penalties for offending corporations are unimpressive; tougher action necessary.
- Establish appeals panel to review major ministerial decisions.



Firefighters inspect damage to overturned tanker at crash site

Observer Photos by Phil Winch



Friday evening's train crash caused major damage to CSX Transportation engine

Engineer escapes injury in fiery train collision

by STEVE HARRON
and STEPHANIE ROBSON
of The Observer

Damage has been placed at one-half million to more than \$2-million following a head-on collision between a southbound freight train and a runaway tank car on Sarnia Chippewa Reserve early Friday evening.

The CSX Transportation engineer, identified as Bob Good, aboard the freight train was not injured. Police say the engineer pulled the engine's emergency brake and then jumped clear moments before the collision and resulting explosion of the tank car.

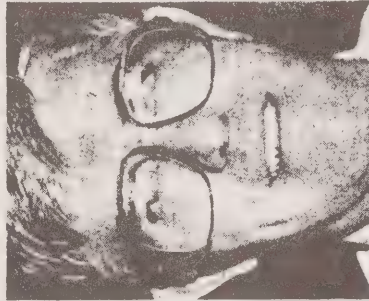
Two firefighters were reported to have received minor injuries. Platoon Chief Tom Josh said firefighter Earl Dixon pulled a muscle in the right side of his neck and Capt. Ed Janson injured his knees when he fell in a hole.

The accident occurred just prior to 6:46 p.m. on the CSX Rail line about 300 metres south of LaSalle Road between River Road and Highway 40.

Sgt. Jim Kennedy of Sarnia Police said when he arrived at the scene the tank car was "totally engulfed" in flames which were shooting about 15 to 20 feet in the air at the time.

Three of the four tank cars were carrying isopropanol — rubbing alcohol — from Shell Canada. The product is highly explosive and fire officials ordered the evacuation of reserve residents in the immediate vicinity of the crash site. Police say about 45 residents of the Sarnia Chippewa Reserve living on South Vidal, Beaver Circle and Waboose Circle were evacuated to the Chippewa Band Office, on Tashmoo Avenue.

One of those evacuated was 12-year-old Junior Williams of 2242 Waboose Circle, who said he heard a "great big rumbling" when the trains collided.



Jim Knight

"I could see fire along the tree tops. The flames shot up and then went down again."

Gerald Plain, of 1990 Vidal St. S., said he was on a couch reading when he heard a "really loud noise." When he looked outside, "the flames were lighting up the sky" and within minutes a siren was sounding.

"I ran up to the railroad track, but I was turned back by police," he said. About 15 minutes later, he was told to leave his house and go to the band office.

The residents were allowed to return to their homes about 9 p.m.

Police and fire officials say the CSX freight train was southbound from the Chemical Valley when the engineer spotted the runaway tank cars on the same track. Sarnia Fire Chief Jim Knight said it is not known how the tank car got from the railway siding onto the main track, but there have

been incidents in recent weeks of vandals switching the tracks.

The CSX engine was pulling 29 cars, but damage was limited to the engine, Walter VanderVeer, CSX Transportation division manager, said from Detroit today damage will probably be about half a million dollars "at the most." He said the company will be conducting a full investigation into the accident.

CSX Transportation, formerly known as Chesapeake and Ohio before a merger two years ago, operates a freight line linking Sarnia, Windsor and St. Thomas.

The damage estimate of \$2-million was provided by Sarnia Police.

At the accident site this morning, Dana Atwell, environmental and industrial hygiene supervisor with Shell Canada, said he expected the clean-up would be completed by this afternoon. No estimate of how much product was lost was available.

The clean-up operation involved flushing the product along the ditch line to dug sump holes. The product was then suctioned out the hole and returned to the Shell facility.

Mr. Atwell said the prime consideration of the clean-up is to "ensure the safety of the personnel."

Fire Chief Knight said the chemical can cause mild irritation to the eyes and skin and can be "harmful" if taken in high concentrations. Firefighters at the scene were equipped with breathing apparatus.

Sarnia Fire Department was assisted at the scene by Clearwater, Corunna, and Courtright fire departments as well as industry fire crews from Dow Chemical and Shell. Police on the scene included Sarnia, Sombra detachment OPP and CN Rail security personnel.

INFORMATION

No. 3/87 For release
January 22, 1987

CROSBIE INITIATES NEW NATIONAL THRUSTS FOR TRANSPORTATION SAFETY

OTTAWA - The Honorable John C. Crosbie, Minister of Transport, announced today major initiatives to improve and strengthen standards of safety to the Canadian railway system on a priority basis.

The announcement was made following the tabling of the busy report on the Hinton, Alta., train disaster last February.

"The Hinton Collision was indeed a tragedy that we must learn from and from which we must learn. Mr. Justice René F. ... the minister made a large number of very important safety measures that are sure to benefit railway safety. ... forthcoming, I standards of Minister.

"In line with these re
number of fronts to improve
and update the legal
new safety

1. I. ... satisfaction are necessary to establish immediately

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...and VIA Rail as well as the railway unions
...reports and action plans within 60 days on
...commendations such as hours of work and periods of

said. "If, take whatever the rail system and VIA Rail as we

and VIA Rail as well as the railway unions will take within 60 days on reports and action plans within 60 days on recommendations such as hours of work and periods of

commendations such as hours of work and periods of scheduling; medical supervision and disciplinary

Si

3. Asking the railways to establish a schedule for implementation of the Advanced Train Control System. In order to accelerate this project, the government is making funds available towards its development;

4. Introducing in Parliament as soon as possible a new Railway Safety Act to modernize and consolidate railway safety legislation;



INFORMATION

No. 70/87 For release
April 10, 1987

ACTION ON RAIL SAFETY RECOMMENDATIONS

EDMONTON - Transport Minister John C. Crosbie today announced that he has received "very prompt and positive responses" from all parties concerned with the recommendations made by Mr. Justice Foisy on last year's Hinton rail tragedy. "Action already taken or planned for the next months will definitely result in a safer Canadian railway system," he said.

The measures announced by Mr. Crosbie are in response to the directions he gave last January to CP Rail, the CTC, the Canadian Railway Labour Union and the federally-regulated railways, to ensure through this 60 days in response to Mr. Crosbie's directions.

The Minister I want to develop, on a cooperative basis, a level of safety testing.

particular, the responses from all
key elements have already been made in three

process that... for CN and CP train crews have been ordered
after negotiation between railways and their unions.
was implemented April 1, 1987.

2. Mainline railway locomotives are rapidly being fitted with reset safety controls and any employee tampering with these devices will be dismissed.

3. Changes are being made to CN medical, supervisory and operational practices with operations managers giving highest priority to ensuring compliance with the rules.



COMMISSION OF INQUIRY HINTON TRAIN COLLISION

REPORT OF THE COMMISSIONER
THE HONOURABLE MR. JUSTICE RENÉ P. FOISY
DECEMBER, 1986



f) Opinions of Other Running Crew Members

Many of the running crew employees who gave evidence at the Commission Hearings indicated that in similar circumstances they expected their reaction would have been the very same as that described by Conductor Smith. Many observed that there is some risk of danger involved in initiating an emergency application of the brakes. Some said that in certain circumstances this can cause derailment. Others seemed more concerned about danger resulting from the anger of the engineer at having had his train stopped and having to explain the situation to the dispatcher and management.

Curiously, late in the hearings there seemed to be a change in the position taken by the United Transportation Union on this point. It acknowledged that Smith's action had constituted a breach of the rule. It now suggested that in the circumstances his breach of the rule was understandable.

It was obvious to the Commission that the UTU had recognized that the procedure established by the rule is about the only practical control the conductor has over the train when he is in the caboose. The existence of the rule and the Union's support of it, is, without doubt, essential to the position the UTU will take in the upcoming debate on the question of whether the railroads should be allowed to run freight trains without cabooses.

The initial position taken by the Union and its members was obviously coloured by a deep sense of sympathy for what they perceived the plight of Conductor Smith to be. The latter position taken by the Union was motivated by considerations completely extraneous to the issues of concern to the Commission.

g) Amendment to the Rule

Rule 3.2 was amended when a new revision of the CN Rail General Operating Instructions was issued in June of 1985. Prior to that time the words "when practicable" did not appear in the rule either in the first paragraph or in the last paragraph.

Although CN denied it, it appears obvious from even a cursory review of the 1985 revisions that the reason for putting in the words "when practicable" was to remove from the CN Rail General Operating Instructions any impediment to the operation of cabooseless trains.

Other revisions which can have no other explanation were made at the same time. For example, the title of Rule 3.7 was changed from, "Red Radio Instructions" to "Red Radio Instructions – (Movements Equipped with Caboose)". Rule 1.20(a) which deals with seatbelts in cabooses previously read:

On cabooses so equipped, employees must wear seatbelts fastened at all times when occupying cupola . . .

This was revised in June, 1985 to read:

On trains and transfers, equipped with an operating caboose, and when so equipped, employees occupying the cupola must wear fastened seatbelts . . .

CN acknowledged that there was no consultation between it and the Unions and running crew members affected by Rule 3.2 preceding the amendment. Neither was there any instruction given to crew members as to the meaning of the rule after it had been amended.

The question obviously arises whether it could be maintained that the rule as amended imposes a less stringent standard of conduct than was required by the rule prior to it being amended.

h) CN Position

CN's interpretation of the rule after the change was described by at least three CN officers. That given by Mr. Ross Walker, CN's Vice-President for Western Canada was:

...the purpose of the paragraph [the last paragraph of 3.2(b)] is to place on the crew on the rear of a train the responsibility to generate that call and to take action in circumstances where the appropriate response is not forthcoming. "When practicable" is simply a recognition that there may be times when that cannot be reasonably done; cannot be put into practice; is not the most or the highest priority activity at a point in time or he may not be able to do it. Nothing more than that.

It was the evidence of the three officers that the introduction of the words "when practicable" did not alter the requirement of the rule whatsoever. Mr. Douglas Fletcher stated that the words were added in order to allow the conductor to sort out his priorities. He explained what he meant by that was that the conductor would be relieved from the obligation to comply with the procedure required by the rule if there was some other mandatory requirement for him to take some action which made compliance with the rule impossible. Mr. Phillip Stephenson, a CN rule expert advised the Commission that he could think of no circumstance where it would be practicable for a conductor to comply with the first part of the rule but not practicable for him to comply with the second part. If he is in a position to make the call, he is in a position to react as required in the last paragraph of the rule if he receives no response. The purpose of the introduction of "when practicable" was not to grant a discretion to the conductor as to whether he should comply with the last part of the rule. No exercise of judgment or provision for a discretion was intended.

CN may not have intended to introduce any uncertainty into the rule by adding the words "when practicable". Indeed, it seems likely that it was not until after the collision that it even occurred to CN that the change was capable of being interpreted as having introduced an element of discretion. The explanations given for the introduction of the words "when practicable" have a flavour of *after the fact* rationalization. The Commission, as has been observed, believes there is substantial reason to conclude that the real reason for the change was anticipation of the cabooseless train debate.

The Commission concludes that whatever might be the proper interpretation of the rule, in its present form, in the absence of any authoritative pronouncement (there not having been any forum in which the issue has been determined authoritatively since June, 1985) the only reasonable conclusion is that the rule is capable of misinterpretation. Few conductors who appeared before the Commission had an unequivocal understanding of the rule.

i) Conclusions

The Commission concludes that if Smith acted as he said he did, his failure to apply the emergency brake when he did not receive a response, having used all available means of communication to the head-end was, even by his own interpretation of the rule, a violation of it. The Commission also concludes that CN bears a significant degree of responsibility for that non-

compliance. Changing such a fundamental rule in such a fundamental way without explanation, and without confirmation that no difference in the standard of conduct was intended, is to court laxity in the observation of the rule by running crew members and the type of disaster which can flow therefrom. The Commission concludes that the effect of the amendment has been to significantly reduce the quality of the rule as an assurance of appropriate engineer response to signals.

j) Recommendation – Rule 3.2(b)

The value of 3.2(b) can only be restored by removing any possibility that it might be interpreted as permitting the conductor any discretion in pulling the air if he does not receive a response to the call initiated in compliance with the first part of the rule. The Commission recommends that CN amend the rule to ensure that it cannot be interpreted as permitting the conductor any discretion.

There may exist situations where it is impractical for the conductor to comply with the rule by reason of other duties. However, the fundamentality of the rule to the usefulness of crew members being positioned at the rear of the train, renders it difficult to think of any other duties that could be considered of such importance that they could take precedence.

Mr. Stephenson cited the possibility that the conductor might be on the rear platform of the caboose inspecting a passing train as required by other rules thus making it impossible for him to initiate the Rule 3.2(b) call. The Commission recommends that the fundamentality of the rule be recognized by clearly giving it precedence over any other rule requiring action by the rear-end crew.

Accordingly, the Commission would recommend the complete removal of the words "when practicable" from the rule.

In addition to amending the rule, the Commission recommends that CN take such steps as are necessary to ensure that all crew members are aware that the rule does not provide to them any discretion whatsoever.

4. Oral Notification of Meets

The circumstances of the Hinton collision raised an obvious question as to why, given that there was easy radio communication between each train and the dispatch in Edmonton, the head-end crews of Train 4 and 413 were not advised by radio of the pending meet at Dalehurst. The transcript of dispatch-to-train communications which was produced to the Commission showed that each of the 3 trains which had been involved in the meet at Medicine Lodge about 45 minutes before the collision had been advised by the dispatcher in advance of that meet. The transcript of the conversation in which Hudson was so advised is quoted on page 26 of this Report. Why was there no radio advice of the Dalehurst meet given to Engineer Hudson on Train 413 or Engineer Peleshaty on Train 4?

The Commission was advised that there was no instruction to dispatchers to give oral notification of meets to train crews. CN in fact considers such advice tantamount to a violation of a rule which prohibits radio advice of a display of upcoming signals.

However, it occurred to the Commission during the course of the hearings, that oral notification of meets by dispatchers to train crews would be desirable. CN's adoption of the procedure established by Rule 3.2(b), as described previously, constitutes a recognition of the



Istituto Superiore
di Sanità - Roma



WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE

IPCS

INTERNATIONAL PROGRAMME
ON CHEMICAL SAFETY
(ILO UNEP WHO)

WORLD CONFERENCE CHEMICAL ACCIDENTS

Rome, July 1987

LOCAL COMMUNITY RESPONSE TO MAJOR ACCIDENT HAZARDS

Judith Petts*

ABSTRACT

In Britain local communities have a direct involvement in the mitigation of off-site risks from major accident hazards, through land use, and emergency, planning. Local authorities are under direct pressure to take account of public concerns. At the local level public reaction has had an impact on the control system, most particularly on decision mechanisms and information requirements. There has been considerable pressure on industry and the statutory agency to produce quantitative risk assessments (QRA) for use in local decision making. The demand for QRA will continue and effective ways of assessing and publicly discussing risk must be positively explored.

INTRODUCTION

From time to time events provide striking evidence and reminders of the existence of hazardous installations and their serious accident potential. In Britain, the Flixborough disaster in 1974 (ref 1) provided just such evidence and, consequently, the impetus for the development of a control system for major accident hazards. The Advisory Committee on Major Hazards (ACMH) provided for a framework of control which is based on the need, first, to identify and assess the hazards, secondly, to seek, to prevent accidents occurring through good plant design and management, and thirdly, to mitigate the consequences of any residual risks by separation of the public from installations through land use planning, and through emergency planning (ref 2). The interactive control system relies on a combination of effective regulation, responsible and safe operation by industry, and open debate. Safety issues always have to be weighed against other factors - economic and social. Safety on-site has to be achieved 'so far as is reasonably practicable'. The off-site control of the residual risk requires that decisions on acceptable levels of safety are made jointly between industry, the authorities, and the public.

Local communities (which are here defined as including residents and their elected local councils) have direct involvement in the mitigation aspect of the control system. The response of local communities to major accident hazards has had a considerable impact on the control system as a whole.

THE HAZARD POTENTIAL

Under the Notification of Installations Handling Hazardous Substances Regulations (1982) some 1600 hazardous installations are notified to the Health and Safety Executive (HSE). Notification is required as soon a site exceeds the thresholds of storage for certain substances.

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Some 200 of the sites are required (under the Control of Industrial Major Accident Hazard (CIMAH) Regulations, 1984) to produce safety cases, on-site emergency plans, and to provide information to the public liable to be affected by an accident. Off-site emergency plans for these installations are the responsibility of the county councils. Control over locations of storage, and how substances are kept and used are being tightened by a system of 'hazardous substances consent' linked to planning permission.

Each hazardous installation is notified to the local planning authority who consults the HSE about the risk to any new development within the vicinity of existing plant, and also about the siting of any new installation (ref. 3). In an urbanised country with a long industrial history and only a comparatively recent identification of the hazard potential of certain industries it is to be expected that some hazardous installations are in close proximity to residential populations. In some places 20,000 people are within 1 km² of an installation. It is estimated that some 200,000 hectares of land are subject to land use planning consideration of the risks to further development and the need to stabilise the population at risk. Many communities have very suddenly become aware of a risk to public safety. A risk which although of very low probability could have serious consequences.

PUBLIC CONCERN

Psychometric studies of public perception indicate that people have most adverse reaction to risks which are involuntary, have potentially catastrophic consequences, involve 'new' or 'high' technology, would appear to provide few benefits and to present a societal rather than individual threat (ref 4-6). Certainly all these studies would seem to suggest that there is the potential for general public reaction against the chemical industry.

In fact, in Britain at least, direct public reaction to hazardous installations has been geographically erratic, small scale in terms of the numbers of people involved, extremely localised (the NIMBY -Not In My Back Yard - syndrome), unsustained, and with little involvement by the established environmental movement. Public reaction at the local level has certainly had an impact on the control system. For example, at Canvey Island public concern was instrumental in forcing a re-examination of siting decisions and consideration of the need to discontinue operations on one plant (ref 7). At Mossmorran a local action group forced a more detailed consideration of the risks involved in siting a new NGL plant and ethylene cracker (ref 8). In a few cases operators have abandoned plans to locate at certain sites because of local concern.

However, in other places local concern has been either apparently non-existent or very weak. On a day to day basis it seems that the general public are not aware of, and (where they are) do not worry unduly about, major accident hazards (ref 9). Evidence of this might partly be found in the low-key response of communities to information recently provided by operators under the CIMAH Regulations. It seems that reaction is influenced by the local economic importance of the industry (the lower the perceived importance the more potential for adverse reaction), the record of the site in terms of incidents and

disturbance (offensive emissions, transport accidents, noise, fires, etc) and the degree of involvement (openness, liaison) of the industry in the local community (secrecy can breed suspicion). Reaction to the possibility of a new operation depends also on familiarity - the first hazard in an area may generate the 'Not in my back yard' response. Public reaction is affected by awareness, however, active response is affected by the ability (time, money, knowledge) to become involved.

LOCAL AUTHORITY RESPONSE

Local authorities come under direct pressure to take account of public concerns. Land use planning is open to direct public scrutiny and involvement. ACMH specifically endorsed the value of the planning system as a means of controlling the location of hazardous industry because it provided an opportunity for a local community to be involved in the decision.

The public accountability of the authorities places considerable pressures on local decision-making. Authorities must be seen to be considering and taking into account all concerns (actual and potential) about hazards and risks. However, authorities faced with unemployment, pressure to minimise restrictions on industrial development and also to provide adequate land for housing supply, etc. find the public balancing of costs (risks) and benefits, perhaps over the siting of a new hazardous installation or further development of land in the vicinity of an existing plant, very difficult. Indeed some authorities have had to set aside HSE advice to stabilise the population at risk because of economic need.

IMPACT OF CONCERN ON RISK DECISIONS

Actual, and potential, local community concern, the decision difficulties outlined above, and a generally more questioning attitude towards industry and the assurances of safe operation given by operators and statutory agencies, are having a considerable impact on hazard control processes. Most evident are the effects on the decision mechanisms and information requirements, in particular:-

1. Lengthening of time taken on siting decisions (occasionally at considerable cost to industry).
2. Imposition of conditions on permissions for development - eg the need for a full hazard and operability study to the satisfaction of the authority.
3. Pressure for closure or relocation of some sites - in two cases central government funds have been made available to local authorities to allow them to compensate operators to remove hazards.
4. Use of independent consultants to verify information and advice by industry and the HSE.
5. Pressure on the HSE and industry to produce quantitative risk assessments.
6. Local concern about, and thus some emphasis on, the worst credible accident.
7. Demands for publication of criteria of risk acceptability for individual and societal risks.
8. Pressure for means of applying cost-benefit analysis to safety criteria to be explored.

9. General demand for more information on hazard sites, hazard consequences and risks, linked to pressure to lift confidentiality constraints on information.
10. Pressure on the HSE to seek stricter on-site hazard controls (eg at Canvey Island).
11. Pressure for the hazard control system to be extended - to smaller sites (where most accidents occur) and to transport hazards.

IMPLICATIONS

Looking to the future it seems certain that, in Britain at least, quantitative risk assessment (QRA) will be a necessary component of any public decision process where risk is a dominant issue. The institutions which manage risk are being opened up to public scrutiny. It is important that decisions on the balancing, and distribution (locally and nationally), of risks and benefits can be made between all parties. QRA allows a larger number of people to participate in the discussions by reducing qualitative judgements to numbers, by putting different risks into perspective, and by providing a good overview of the relative risks in a system.

Of course QRA will not in itself abate public concern (witness Canvey Island). It has to be accompanied by more willingness to provide information on hazards, and by more effort to understand public reaction so that information and risk criteria can be effectively disseminated and discussed. QRA must address the concerns of the local public whilst providing an assessment which is as robust as possible.

In many respects we live on a knife-edge. A major accident could change not only attitudes towards, but also the whole concept of, a control system which values self-regulation by industry. Led primarily by the media the public can react strongly against the industry through fear and misunderstanding. The industry must be seen to operate safely, it must be open in its dealings with the local community. It seems important that, whilst we are in a period of relative public calm, effective ways of assessing and publicly discussing risk are positively explored.

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Public Law 93-633
93rd Congress, H. R. 15223
January 3, 1975

An Act

To regulate commerce by improving the protections afforded the public against risks connected with the transportation of hazardous materials, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Transportation Safety Act of 1974".

88 STAT. 2156

Transportation
Safety Act of
1974.
49 USC 1801

TITLE III—INDEPENDENT SAFETY BOARD

SHORT TITLE

SEC. 301. This title may be cited as the "Independent Safety Board Act of 1974".

FINDINGS

SEC. 302. The Congress finds and declares:

(1) The National Transportation Safety Board was established by statute in 1966 (Public Law 89-670; 80 Stat. 935) as an independent Government agency, located within the Department of Transportation, to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations.

(2) Proper conduct of the responsibilities assigned to this Board requires vigorous investigation of accidents involving transportation modes regulated by other agencies of Government; demands

continual review, appraisal, and assessment of the operating practices and regulations of all such agencies; and calls for the making of conclusions and recommendations that may be critical of or adverse to any such agency or its officials. No Federal agency can properly perform such functions unless it is totally separate and independent from any other department, bureau, commission, or agency of the United States.

NATIONAL TRANSPORTATION SAFETY BOARD

49 USC 1902.

SEC. 303. (a) ESTABLISHMENT.—The National Transportation Safety Board (hereafter in this title referred to as the "Board"), previously established within the Department of Transportation, shall be an independent agency of the United States, in accordance with this section, on and after April 1, 1975.

Membership.

(b) ORGANIZATION.—(1) The Board shall consist of five members, including a Chairman. Members of the Board shall be appointed by the President, by and with the advice and consent of the Senate. No more than three members of the Board shall be of the same political party. At any given time, no less than two members of the Board shall be individuals who have been appointed in the field of accident reconstruction, safety engineering, or transportation safety.

Term.

(2) The terms of office of members of the Board shall be 5 years, except as otherwise provided in this paragraph. Any individual appointed to fill a vacancy occurring on the Board prior to the expiration of the term of office for which his predecessor was appointed shall be appointed for the remainder of that term. Upon the expiration of his term of office, a member shall continue to serve until his successor is appointed and shall have qualified. Individuals serving as members of the National Transportation Safety Board on the date of enactment of this title shall continue to serve as members of the Board until the expiration of their then current term of office. Any member of the Board may be removed by the President for inefficiency, neglect of duty, or malfeasance in office.

(3) On or before January 1, 1976 (and thereafter as required), the President shall—

(A) designate, by and with the advice and consent of the Senate, an individual to serve as the Chairman of the Board (hereafter in this title referred to as the "Chairman"); and

(B) an individual to serve as Vice Chairman.

The Chairman and Vice Chairman each shall serve for a term of 2 years. The Chairman shall be the chief executive officer of the Board and shall exercise the executive and administrative functions of the Board with respect to the appointment and supervision of personnel employed by the Board; the distribution of business among such personnel and among any administrative units of the Board; and the use and expenditure of funds. The Vice Chairman shall act as Chairman in the event of the absence or incapacity of the Chairman or in case of a vacancy in the office of Chairman. The Chairman or Acting Chairman shall be governed by the general policies established by the Board, including any decisions, findings, determinations, rules, regulations, and formal resolutions.

(4) Three members of the Board shall constitute a quorum for the transaction of any function of the Board.

(5) The Board shall establish and maintain distinct and appropriately staffed bureaus, divisions, or offices to investigate and report on accidents involving each of the following modes of transportation:

(A) aviation; (B) highway and motor vehicle; (C) railroad and tracked vehicle; and (D) pipeline. The Board shall, in addition, establish and maintain any other such office as is needed, including an office to investigate and report on the safe transportation of hazardous materials.

(c) GENERAL.—(1) The General Services Administration shall furnish the Board with such offices, equipment, supplies, and services as it is authorized to furnish to any other agency or instrumentality of the United States.

(2) The Board shall have a seal which shall be judicially recognized.

(3) Subject to the civil service and classification laws, the Board is authorized to select, appoint, employ, and fix the compensation of such officers and employees, including investigators, attorneys, and administrative law judges, as shall be necessary to carry out its powers and duties under this title.

GENERAL PROVISIONS

SEC. 304. (a) DUTIES OF BOARD.—The Board shall—

(1) investigate or cause to be investigated (in such detail as it shall prescribe), and determine the facts, conditions, and circumstances and the cause or probable cause or causes of any—

(A) aircraft accident which is within the scope of the functions, powers, and duties transferred from the Civil Aeronautics Board under section 6(d) of the Department of Transportation Act (49 U.S.C. 4655(d)) pursuant to title VII of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1441);

(B) highway accident, including any railroad grade crossing accident, that it selects in cooperation with the States;

(C) railroad accident in which there is a fatality, substantial property damage, or which involves a passenger train;

(D) pipeline accident in which there is a fatality or substantial property damage;

(E) major marine casualty, except one involving only public vessels, occurring on the navigable waters or territorial seas of the United States, or involving a vessel of the United States, in accordance with regulations to be prescribed jointly by the Board and the Secretary of the department in which the Coast Guard is operating. Nothing in this subparagraph shall be construed to eliminate or diminish any responsibility under any other Federal statute of the Secretary of the department in which the Coast Guard is operating: *Provided*, That any marine accident involving a public vessel and any other vessel shall be investigated and the facts, conditions, and circumstances, and the cause or probable cause determined and made available to the public by either the Board or the Secretary of the Department in which the Coast Guard is operating; and

(F) other accident which occurs in connection with the transportation of people or property which, in the judgment of the Board, is catastrophic, involves problems of a recurring character, or would otherwise carry out the policy of this title.

The Board may request the Secretary of Transportation (hereafter in this title referred to as the "Secretary") to make investigations with regard to such accidents and to report to the

Report.

Board the facts, conditions, and circumstances thereof (except in accidents where misfeasance or nonfeasance by the Federal Government is alleged), and the Secretary or his designees are authorized to make such investigations. Thereafter, the Board, utilizing such reports, shall make its determination of cause or probable cause under this paragraph;

(2) report in writing on the facts, conditions, and circumstances of each accident investigated pursuant to paragraph (1) of this subsection and cause such reports to be made available to the public at reasonable cost and to cause notice of the issuance and availability of such reports to be published in the Federal Register;

(3) issue periodic reports to the Congress, Federal, State, and local agencies concerned with transportation safety, and other interested persons recommending and advocating meaningful responses to reduce the likelihood of recurrence of transportation accidents similar to those investigated by the Board and proposing corrective steps to make the transportation of persons as safe and free from risk of injury as is possible, including steps to minimize human injuries from transportation accidents;

(4) initiate and conduct special studies and special investigations on matters pertaining to safety in transportation including human injury avoidance;

(5) assess and reassess techniques and methods of accident investigation and prepare and publish from time to time recommended procedures for accident investigations;

(6) establish by regulation requirements binding on persons reporting accidents subject to the Board's investigatory jurisdiction under this subsection;

(7) evaluate, assess the effectiveness, and publish the findings of the Board with respect to the transportation safety consciousness and efficacy in preventing accidents of other Government agencies;

(8) evaluate the adequacy of safeguards and procedures concerning the transportation of hazardous materials and the performance of other Government agencies charged with assuring the safe transportation of such materials; and

(9) review on appeal (A) the suspension, amendment, modification, revocation, or denial of any operating certificate or license issued by the Secretary of Transportation under sections 602, 609, or 611 (c) of the Federal Aviation Act of 1958 (49 U.S.C. 1422, 1429, or 1431 (c)); and (B) the decisions of the Commandant of the Coast Guard, on appeals from the orders of any administrative law judge revoking, suspending, or denying a license, certificate, document, or register in proceedings under section 4420 of the Revised Statutes of the United States (46 U.S.C. 239); the Act of July 13, 1954 (46 U.S.C. 239 (a) and (b)); or section 4 of the Great Lakes Pilotage Act (46 U.S.C. 216(b)).

(b) Powers of Board.—(1) The Board, or upon the authority of the Board, any member thereof, any administrative law judge employed by or assigned to the Board, or any officer or employee duly designated by the Chairman, may, for the purpose of carrying out this title, hold such hearings, sit and act at such times and places, administer such oaths, and require by subpoena or otherwise the attendance and testimony of such witnesses and the production of such evidence as the Board or such officer or employee deems advisable. Subpoenas shall be issued under the signature of the Chairman, or his delegate, and may

Report;
publication
in Federal
Register.

Reports to
Congress,
Federal,
State, and
local agencies.

46 USC 239a,
239b,
46 USC 216.

49 USC 1903.

49 USC 1655.

be served by any person designated by the Chairman. Witnesses summoned to appear before the Board shall be paid the same fees and mileage that are paid witnesses in the courts of the United States. Such attendance of witnesses and production of evidence may be required from any place in the United States to any designated place of such hearing in the United States.

(2) Any employee of the Board, upon presenting appropriate credentials and a written notice of inspection authority, is authorized to enter any property wherein a transportation accident has occurred or wreckage from any such accident is located and do all things therein necessary for a proper investigation. The employee may inspect, at reasonable times, records, files, papers, processes, controls, and facilities relevant to the investigation of such accident. Each inspection shall be commenced and completed with reasonable promptness and the results of such inspection made available.

(3) In case of contumacy or refusal to obey a subpoena, an order, or an inspection notice of the Board, or of any duly designated employee thereof, by any person who resides, is found, or transacts business within the jurisdiction of any district court of the United States, such district court shall, upon the request of the Board, have jurisdiction to issue to such person an order requiring such person to comply forthwith. Failure to obey such an order is punishable by such court as a contempt of court.

(4) The Board is authorized to enter into, without regard to section 3709 of the Revised Statutes of the United States (41 U.S.C. 5), such contracts, leases, cooperative agreements, or other transactions as may be necessary in the conduct of the functions and the duties of the Board under this title, with any government entity or any person.

(5) The Board is authorized to obtain, and shall be furnished, with or without reimbursement, a copy of the report of the autopsy performed by State or local officials on any person who dies as a result of having been involved in a transportation accident within the jurisdiction of the Board and, if necessary, the Board may order the autopsy or seek other tests of such persons as may be necessary to the investigation of the accident: *Provided*, That to the extent consistent with the need of the accident investigation, provisions of local law protecting religious beliefs with respect to autopsies shall be observed.

(6) The Board is authorized to (A) use, on a reimbursable basis or otherwise, when appropriate, available services, equipment, personnel, and facilities of the Department of Transportation and of other civilian or military agencies and instrumentalities of the Federal Government; (B) confer with employees and use available services, records, and facilities of State, municipal, or local governments and agencies; (C) employ experts and consultants in accordance with section 3109 of title 5, United States Code; (D) appoint one or more advisory committees composed of qualified private citizens or officials of Federal, State, or local governments as it deems necessary or appropriate, in accordance with the Federal Advisory Committee Act (5 U.S.C. App. I); (E) accept voluntary and uncompensated services notwithstanding any other provision of law; (F) accept gifts or donations of money or property (real, personal, mixed, tangible, or intangible); and (G) enter into contracts with public or private nonprofit entities for the conduct of studies related to any of its functions.

(7) Whenever the Board submits or transmits any budget estimate, budget request, supplemental budget estimate, or other budget information, legislative recommendation, prepared testimony for congressional hearings, or comment on legislation to the President or to the Office of Management and Budget, it shall concurrently transmit a copy thereof to the Congress. No officer or agency of the United States

Inspections.

Publication
in Federal
Register.

Contract
authority.

Autopsy
report.

Budget
estimates,
transmittal
to Congress.

shall have any authority to require the Board to submit its budget requests or estimates, legislative recommendations, prepared testimony for congressional hearings, or comments on legislation to any officer or agency of the United States for approval, comments, or review, prior to the submission of such recommendations, testimony, or comments to the Congress.

(8) The Board is empowered to designate representatives to serve or assist on such committees as the Chairman determines to be necessary or appropriate to maintain effective liaison with other Federal agencies, and with State and local government agencies, and with independent standard setting bodies carrying out programs and activities related to transportation safety.

(9) The Board, or an employee of the Board duly designated by the Chairman, may conduct an inquiry to secure data with respect to any matter pertinent to transportation safety, upon publication of notice of such inquiry in the Federal Register; and may require, by special or general orders, Federal, State, and local government agencies and persons engaged in the transportation of people or property in commerce to submit written reports and answers to such requests and questions as are propounded with respect to any matter pertinent to any function of the Board. Such reports and answers shall be submitted to the Board or to such employee within such reasonable period of time and in such form as the Board may determine. Copies thereof shall be made available for inspection by the public.

(10) Establish such rules and regulations as may be necessary to the exercise of its functions.

(c) **USE OF REPORTS AS EVIDENCE.**—No part of any report of the Board, relating to any accident or the investigation thereof, shall be admitted as evidence or used in any suit or action for damages growing out of any matter mentioned in such report or reports.

(d) **JUDICIAL REVIEW.**—Any order, affirmative or negative, issued by the Board under this title shall be subject to review by the appropriate court of appeals of the United States or the United States Court of Appeals for the District of Columbia, upon petition filed within 60 days after the entry of such order, by any person disclosing a substantial interest in such order. Such review shall be conducted in accordance with the provisions of chapter 7 of title 5, United States Code.

ANNUAL REPORT

SEC. 305. The Board shall report to the Congress on July 1 of each year. Such report shall include, but need not be limited to—

(1) a statistical and analytical summary of the transportation accident investigations conducted and reviewed by the Board during the preceding calendar year;

(2) a survey and summary, in such detail as the Board deems advisable, of the recommendations made by the Board to reduce the likelihood of recurrence of such accidents together with the observed response to each such recommendation;

(3) an appraisal in detail of the accident investigation and accident prevention activities of other government agencies charged by Federal or State law with responsibility in this field; and

(4) a biennial appraisal and evaluation and review, and recommendations for legislative and administrative action and change, with respect to transportation safety.

5 USC 701.

49 USC 1904.

PUBLIC ACCESS TO INFORMATION

49 USC 1905.

SEC. 306. (a) GENERAL.—Copies of any communication, document, investigation, or other report, or information received or sent by the Board, or any member or employee of the Board, shall be made available to the public upon identifiable request, and at reasonable cost, unless such information may not be publicly released pursuant to subsection (b) of this section. Nothing contained in this section shall be deemed to require the release of any information described by subsection (b) of section 552 of title 5, United States Code, or which is otherwise protected by law from disclosure to the public.

(b) EXCEPTION.—The Board shall not disclose information obtained under this title which concerns or relates to a trade secret referred to in section 1905 of title 18, United States Code, except that such information may be disclosed in a manner designed to preserve confidentiality.—

Information disclosure, prohibition.

(1) upon request, to other Federal Government departments and agencies for official use;

(2) upon request, to any committee of Congress having jurisdiction over the subject matter to which the information relates;

(3) in any judicial proceeding under a court order formulated to preserve the confidentiality of such information without impairing the proceedings; and

(4) to the public in order to protect health and safety, after notice to any interested person to whom the information pertains and an opportunity for such person to comment in writing, or orally in closed session, on such proposed disclosure (if the delay resulting from such notice and opportunity for comment would not be detrimental to health and safety).

RESPONSE TO BOARD RECOMMENDATIONS

49 USC 1906.

SEC. 307. Whenever the Board submits a recommendation regarding transportation safety to the Secretary, he shall respond to each such recommendation formally and in writing not later than 90 days after receipt thereof. The response to the Board by the Secretary shall indicate his intention to—

(1) initiate and conduct procedures for adopting such recommendation in full, pursuant to a proposed timetable, a copy of which shall be included;

(2) initiate and conduct procedures for adopting such recommendation in part, pursuant to a proposed timetable, a copy of which shall be included. Such response shall set forth in detail the reasons for the refusal to proceed as to the remainder of such recommendation; or

(3) refuse to initiate or conduct procedures for adopting such recommendation. Such response shall set forth in detail the reasons for such refusal.

The Board shall cause notice of the issuance of each such recommendation and of each receipt of a response thereto to be published in the Federal Register, and shall make copies thereof available to the public at reasonable cost.

Publication in Federal Register.

CONFORMING AMENDMENTS

SEC. 308. The Department of Transportation Act is amended—

(1) by deleting section 5 (49 U.S.C. 1654);

(2) by amending section 4(c) thereof (49 U.S.C. 1653(c)) by deleting “or the National Transportation Safety Board” in the first sentence thereof; and by deleting in the second sentence thereof “, the Administrators, or the National Transportation Safety Board,” and by inserting in lieu thereof “or the Administrators”; and

(3) by amending section 4(d) thereof (49 U.S.C. 1653(d)) by deleting “, the Administrators, and the National Transportation Safety Board” and by inserting in lieu thereof “and the Administrators”.

AUTHORIZATION OF APPROPRIATIONS

49 USC 1907.

SEC. 309. There are authorized to be appropriated for the purposes of this Act not to exceed \$12,000,000 for the fiscal year ending June 30, 1975; and \$12,000,000 for the fiscal year ending June 30, 1976, such sums to remain available until expended.

Approved January 3, 1975.

LEGISLATIVE HISTORY:

HOUSE REPORTS: No. 93-1083 (Comm. on Interstate and Foreign Commerce) and No. 93-1589 (Comm. of Conference).

SENATE REPORTS: No. 93-1192 accompanying S. 4057 (Comm. on Commerce) and No. 93-1347 (Comm. of Conference).

CONGRESSIONAL RECORD, Vol. 120 (1974):

June 24, considered and passed House.

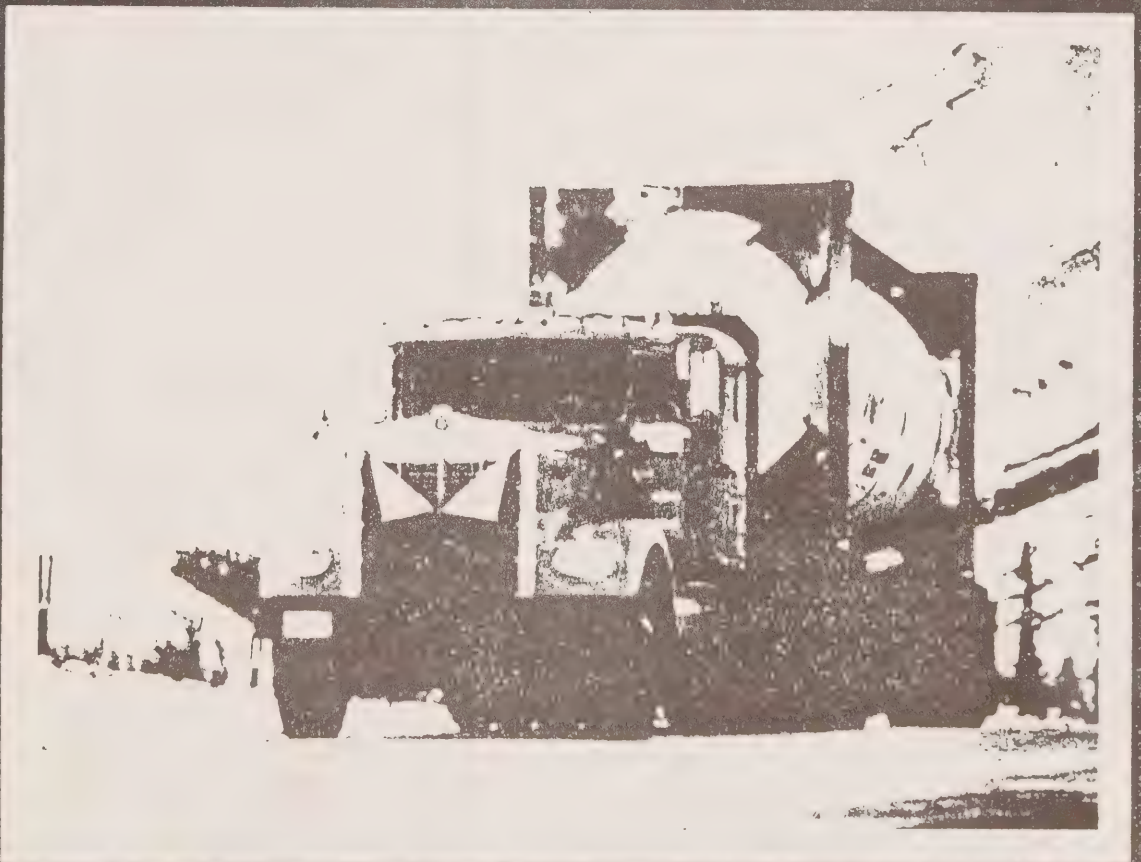
Oct. 7, considered and passed Senate, amended, in lieu of S. 4057.

Dec. 18, Senate agreed to conference report.

Dec. 19, House agreed to conference report.



Transportation of Hazardous Materials



HOUSE OF THE UNITED STATES
Office of Technology Assessment
Washington, D.C. 20540

Table 2-20.—Hazardous Materials Information System (HMIS) Nonreporting Analysis Using the National Transportation Safety Board (NTSB) Database, 1976-83

Mode	Number of Incidents in NTSB database	Number not found in HMIS database	Percentage nonmatching
Rail	258	165	64
Highway . . .	6	3	50
Water	7	6	86

SOURCE: Office of Technology Assessment.

onstrate serious nonreporting problems for the air transport industry. The NRC database has limited usefulness in quantifying damage estimates, since this is not a reporting requirement. Table 2-19 shows the results of comparisons between the databases for matching incidents; valid comparisons can be made only for the rail and highway modes.

The National Transportation Safety Board examines only hazardous materials incidents that have serious consequences; thus theoretically, all NTSB incidents should also have been reported to RSPA and included in HMIS. NTSB incident reports include information on injuries, deaths, and damages, and share five matching fields with HMIS: year, month, day, city, and State. HMIS files for 1976 to early 1983 were studied to find information matching NTSB data; the results are shown in table 2-20. **The analysis indicates that 50 percent or more of the most serious hazardous materials transport incidents go unreported to RSPA.** OTA did not attempt to determine whether this percentage changed over time. Most NTSB hazardous materials reports for which sufficient information was available were for rail incidents, and nearly two-thirds of NTSB incidents were not reported in HMIS.

Table 2-21 displays the consequences of the unreported incidents. For rail alone, the injuries and damages of unreported incidents appearing in the NTSB database exceed the total reported injuries and damages for all HMIS rail incidents from 1976 to 1984. Among the more notable omissions are an incident in Maryland, Oklahoma, on December 15, 1976, which resulted in 3 deaths, 11 injuries, and an estimated \$880,700 in damages; Crestview, Florida, on April 8, 1979, which injured 14 people and caused \$1,258,500 in damages; Pisgah, California, on May 11, 1980, which killed 1 person, injured 3, and caused \$2,889,000 in damages; and Benton,

Table 2-21.—Hazardous Materials Information System (HMIS) Nonreporting Consequences Using National Transportation Safety Board Database, 1976-83

Mode	Number not found in HMIS	Deaths	Injuries	Damages
Rail	165	37	92	\$89,443,936
Highway	3	12	41	125,000
Water	6	13	18	16,360,000

SOURCE: Office of Technology Assessment.

Iowa, on August 15, 1982, which injured 1 and caused \$2,140,000 in damages.

Although the sample size for highway and marine is too small for good analysis, in two other modes NTSB showed serious incidents that were not reported to HMIS. For example, a highway incident on December 28, 1977, in Goldonna, Louisiana, which killed 2 people, injured 11, and caused \$125,000 in damages, and a marine incident in Good Hope, Louisiana, on August 30, 1979, which killed 12 and resulted in \$10,500,000 in damages were not reported to HMIS. (See table 2-17.)

Examples of misreporting include a rail release in Newton Falls, Ohio, on May 9, 1979, that caused an estimated damage of \$1,407,000 in the NTSB report; according to the HMIS database, no damage was reported. In another case, NTSB reported \$2,540,000 in damages caused by a rail release in Hastings, Iowa, on July 10, 1980; the HMIS report shows no damage.

NTSB reviews the incidents it investigates over an extended period of time and holds discussions with a number of involved and affected parties. In contrast, RSPA requires reports to be submitted by the carrier within 15 days of the incident. Table 2-22 displays the consequence statistics of NTSB and HMIS for matching incidents. For the rail mode, RSPA estimates of death and injury are within range of NTSB reports. However, damage estimates are off significantly, by a factor of 7 to 8.

The Association of American Railroads Database.—AAR maintains a hazardous materials incident file that includes a data field identifying the primary source of the report. AAR data corroborate the results of the HMIS comparison with NTSB data; over 60 percent of reportable rail releases are not being reported to RSPA. Of 13,706 incidents

Coincident with the retrofit of certain tank cars and the reduction in serious accidents, FRA also increased the number of over-the-rail inspections of railcars, which may have contributed to reducing the number of rail accidents. There are about 183,000 tank cars, approximately 63 percent of which are used for hazardous materials. FRA performed 39,000 tank car inspections in 1982 and 31,000 in 1983, twice the number of annual inspections (16,000) performed in 1978 and 1979.

The coordination of Federal agencies involved in regulating the rail mode needs improvement. FRA has primary responsibility for regulation, inspection, and enforcement of safety regulations in the rail mode. RSPA has the final say in hazardous materials tank car specifications, although FRA and AAR perform the safety evaluations. RSPA sets regulations for intermodal portable tanks, and keeps track of incidents or spills in the rail mode, while FRA must approve securement for the tanks when they are carried over the rails on flatcars.

A comparison of RSPA's database on hazardous materials incidents with the records of NTSB demonstrated that the inaccurate and incomplete accident records are serious problems for the rail mode.⁹⁴ Between 1976 and 1983, 165 accidents involving hazardous materials appeared in the NTSB database that did not appear in the RSPA database. These accidents resulted in 37 deaths, 92 injuries, and \$89 million in damages. The value of damages reported to NTSB but not to RSPA exceeded the damages of all rail incidents reported to RSPA over the same time period. Better coordination of Federal activities in data collection could provide a more complete base on which to make regulatory decisions about whether changes in tank car specifications are called for.

The railroads keep detailed records of commodity flows. If this capability were combined with better reporting of releases to RSPA, problems with particular types of tank cars or with particular commodities could be rapidly identified and alleviated. For example, more than 60 percent of all spills are due to loose or defective fittings (chapter 2). This finding indicates a need to reevaluate the specifications for the fittings or the procedures to operate

them, or both. Also, OTA contractor data analysis shows that corrosives had the highest release rate in rail transport. Some tank cars that carry corrosive acids (hydrochloric acid, for example) are rubber-lined and are pressure tested only before lining. Additional study is needed to determine whether there is a relationship between test data and release occurrence or whether tank cars carrying corrosives need to be redesigned.

Bulk Water Transport

The largest bulk containers are self-propelled tank ships and tank barges, which together account for about 91 percent of all marine shipping of hazardous materials. Tank barges range in size from 300,000 to 600,000 gallons, and self-propelled tankers can be 10 times larger. About 8 percent of marine shipping of hazardous materials occurs in dry cargo barges, which can carry both bulk (portable tanks) and nonbulk (drums) containers.⁹⁵

⁹⁴Abkowitz and List, *op. cit.*

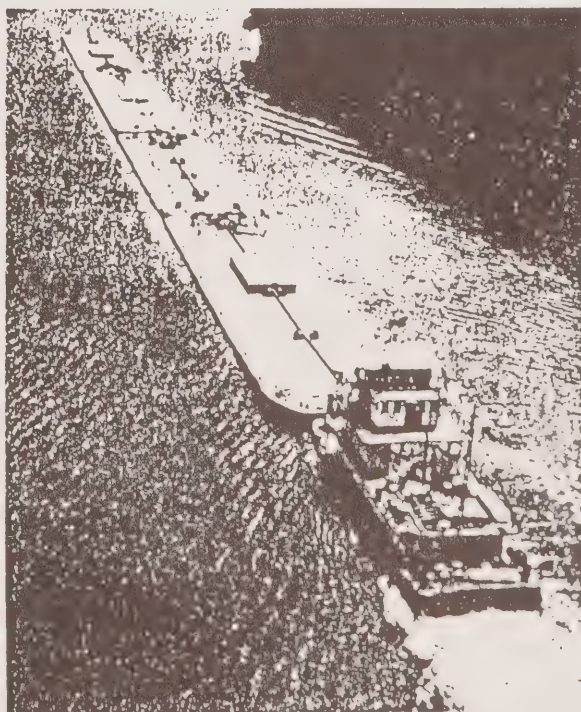


Photo credit American Waterways Operators

Approximately 35 percent of the hazardous materials tonnage transported in 1982, was by waterborne commerce

⁹⁵Abkowitz and List, *op. cit.*

STATISTICAL TRENDS IN RAILROAD HAZARDOUS
MATERIALS TRANSPORTATION SAFETY
1978 TO 1986

Aviva E. Harvey
Peter C. Conlon
and
Theodore S. Glickman

Publication R-640

September 1987

Prepared for the
Environmental and Hazardous Material Studies Division
Research and Test Department
Association of American Railroads
Washington, D.C.

threshold for accidents). During these nine years the percentage of total rail incidents that were also reported as release accidents declined from 10.5 percent in 1978 to 5.7 percent in 1986. *reporting base changed*

The trends in the severity of incidents and release accidents measured by the number of injuries reported to OHMT is shown in Figure 1.9. In every year after 1978, most injuries occurred in incidents which were not severe enough to also be reported as release accidents. Of the 1,319 injuries in all the railroad incidents reported to OHMT from 1978 to 1986, 411 (or 31 percent) were also reported in the corresponding release accidents to FRA. During the last eight of these nine years, only 85 out of 863 (9.8 percent) of the injuries in incidents were also associated with release accidents. Thus, the injuries resulting from the most significant incidents, i.e., the ones also reported as accidents, have diminished to low levels and have been accompanied by a general decline in the injuries resulting from all incidents.

The quantity of hazardous material released is another indication of the severity of incidents. Quantities released are reported to OHMT in either gallons or pounds and the reported quantities are subject to considerable uncertainty because it is difficult to estimate quantities released except when there is a total release from a tank car or container.* Of all the railroad incidents in 1978-1986, 38 percent of the reports had the release quantity in gallons, 5 percent had it in pounds, and 57 percent had the quantity

*Reports in which quantity is unreported include incidents in which the quantity released is unknown, not measurable, or negligible, perhaps involving an odor, vapor or spray. There are inconsistencies in the coding of releases with unreported quantities in the OHMT computer files (in some years they are coded as 0's and in other years as 1's). Therefore, the data do not allow for a distinction between incidents with unreported quantities and incidents with minor releases. The analyses in this report considered all incidents with codes of 0 and 1 to have unreported quantities. As a result, the total estimated amounts of hazardous materials released are understated.

unreported. For those railroad incidents which were also reported to FRA as release accidents, 68 percent had the release quantity in gallons, 15 percent had it in pounds, and 17 percent had the quantity unreported. Figure 1.10 shows the trends in the total reported gallons released each year in incidents and in release accidents. As with injuries, there has been a general decline in the total gallons released in all incidents each year. Over 72 percent of the reported gallons were released in train accidents. Since only 9 percent of the incidents were also reported as accidents, releases that occurred in connection with train accidents tended to be much larger.

All release accidents reported to FRA are also required to be reported to OHMT as release incidents. Over the nine years from 1978 to 1986, however, about 25 percent of the release accidents reported to FRA were not reported to OHMT as incidents. It cannot be determined whether any incidents should also have been reported as release accidents but were not. There are also discrepancies in the reported number of cars releasing hazardous materials in accidents: in some cases the FRA accident report indicates more cars releasing than the corresponding OHMT incident report and in other cases the reverse is true. These inconsistencies point to deficiencies either in the reporting of accidents and incidents or in the processing of the information, or both.



COMITÉ DES TRANSPORTS PAR CHEMIN DE FER

RAILWAY TRANSPORT COMMITTEE

ORDONNANCE N° R-41212

ORDER NO. R-41212

Le 29 octobre 1987

October 29, 1987

RELATIVE à l'ordonnance générale n° 0-1 de la Commission canadienne des transports concernant les rapports d'accidents de chemin de fer, C.R.C. 1978, chap. 1164;

IN THE MATTER OF the Canadian Transport Commission General Order No. 0-1, Regulations respecting Railway Accident Reports, C.R.C. 1978, c. 1164;

RELATIVE à l'article 46 de la Loi nationale sur les transports; et

IN THE MATTER OF Section 46 of the National Transportation Act; and

RELATIVE à la Loi sur les chemins de fer.

IN THE MATTER OF the Railway Act.

Référence n° 50186-57-1

File No. 50186-57-1

ATTENDU que le Comité des transports par chemin de fer (ci-après désigné "le CTCF") constate qu'il est nécessaire de rapporter d'autres incidents qui ne sont pas actuellement rapportés en vertu de l'ordonnance générale 0-1 afin d'évaluer de façon plus adéquate la sécurité des activités ferroviaires; et

WHEREAS the Railway Transport Committee (hereinafter "RTC") finds that there is a need to report other incidents not presently reported under General Order 0-1 in order to more adequately assess the safety of the operations of railways; and

ATTENDU que le CTCF constate que le seuil minimal fixé à 750 \$ pour les dommages, tel que stipulé dans le paragraphe (2) de l'article 8 de l'ordonnance générale 0-1 pour la rédaction de rapports sur des collisions et des déraillements n'ayant entraîné ni la mort ni de blessures, a été atteint par l'inflation et qu'afin de réduire le fardeau qu'ont les compagnies ferroviaires de rédiger des rapports relativement aux accidents mineurs le seuil devrait être augmenté.

WHEREAS the RTC finds that the minimal damage threshold of \$750, as found in subsection 8(2) of the General Order 0-1 for reporting collisions and derailments not attended with death or personal injury, has been eroded by inflation and that in order to reduce the reporting burden on the railway companies in respect of minor accidents the threshold should be increased.

IL EST PAR LA PRÉSENTE ORDONNÉ CE QUI SUIT:

IT IS HEREBY ORDERED THAT:

1. Les compagnies ferroviaires assujetties à la juridiction de la Commission canadienne des transports devront faire rapport conformément à l'article 7 de l'ordonnance générale 0-1

1. Railway Companies subject to the jurisdiction of the Canadian Transport Commission shall report in accordance with Section 7 of the General Order 0-1

a) de tous les accidents survenant dans les voitures de voyageurs attribuables au mauvais fonctionnement du matériel ou à la manoeuvre inappropriée des trains; ces accidents devront être rapportés mensuellement et au plus tard 30 jours de la fin de chaque mois;

b) de tous les cas où les équipes de train indiquent qu'elles ont observées les indications de signaux autres que celles prévues pour les conditions d'exploitation telles qu'elles existaient dans la région du signal; et

c) de tous les incidents où des collisions ont été évitées de justesse.

2. Les compagnies ferroviaires assujetties à la juridiction de la Commission canadienne des transports sont dispensées, à compter du 1er novembre 1987, de l'application du paragraphe (2) de l'article 8 de l'ordonnance générale 0-1.

3. (1) Les compagnies ferroviaires assujetties à la juridiction de la Commission canadienne des transports devront rapporter, à compter du 1er novembre 1987, tous les genres de collisions et de déraillements survenant sur la voie principale, n'ayant entraîné ni la mort ni de blessures et où les dommages apparents aux biens ferroviaires sont supérieurs à 7 000 \$ et, à compter du 1er janvier 1988, rapporter les accidents où les dommages apparents sont supérieurs à 7 350 \$.

(2) Chaque rapport devra être rédigé sur le formulaire 2 de l'annexe II à l'ordonnance générale 0-1 avec réponses à tous les articles qui s'appliquent.

a) any accidents occurring in railway passenger cars attributable to faulty equipment or inadequate train handling; such accidents are to be reported once a month and no later than 30 calendar day from the end of each month;

b) all instances where train crews report observance of signal indications other than those intended for the operating conditions as they existed at the time in the area of the signal; and

c) all incidents in the operation of trains involving near collisions.

2. Railway Companies subject to the jurisdiction of the Canadian Transport Commission are from November 1, 1987, exempted from the provision of subsection 8(2) of General Order 0-1.

3.(1) Railway Companies subject to the jurisdiction of the Canadian Transport Commission shall from November 1, 1987, report all types of collisions and derailments occurring on the main track, not attended with death or personal injury where the apparent damage to the railway property is in excess of \$7,000 and, effective January 1, 1988, report such accidents where this apparent damage is in excess of \$7,350.

(2) Each report shall be made on form 2 of Schedule II of General Order 0-1 with answers to all applicable items.

(signature)

(signed)

J. O'Hara

Secrétaire

Comité des transports par chemin de fer

Secretary

Railway Transport Committee

Stress rides the rails

BY BRIAN TUCKER

Prof. Tucker teaches organizational behavior at the University of Saskatchewan's College of Commerce.

SASKATOON

THREE TRAIN accidents in as many days last month claimed four lives, injured 35 and caused millions of dollars in damage. The latest episodes in the continuing saga of death and destruction on our railways, they point a spotlight on stress research.

A year ago, a locomotive engineer came to see me to talk about the stress he was experiencing from his job. He talked about the trauma trainmen undergo when a car is hit at a crossing. He described the sickening feeling when an engineer realizes there is no way he can stop thousands of tons of locomotive in time. He spoke of the difficulties he and other trainmen have sleeping at night for months after accidents (even if they weren't personally involved), though at the same time some must struggle to stay awake on a job that requires them to face empty, boring track for hours on end.

The engineer told of train conductors who take fiendish pleasure in "riding" young trainmen, of dispatchers who permit more than one train to use the same track at the same time, of brakemen who fall asleep on the job, of the difficulties in training engineers and of railway officials so cavalier or macho that they refuse to acknowledge the potential for work-related stress.

Many of the things the engineer said might be discounted as his personal perception. But his basic point was valid. Trainmen can undergo stress.

The report released a year ago on the crash that killed 23 near Hinton, Alta., in February, 1986, and other studies have addressed the issue of stress among locomotive engineers. But they have proved to be of little avail.

Politicians seem to feel the solutions to rail-

GLOBE MAIL FEB 4, 1989

way disasters lie in improved safety legislation. Legislation introduced in the House of Commons last month would simply convert the Canadian Transport Commission's existing regulations into law. It is understandable, of course, that legislators think of laws as the answer to problems, but they credit the law with magical powers if they feel that turning regulations into laws saves lives and prevents disasters.

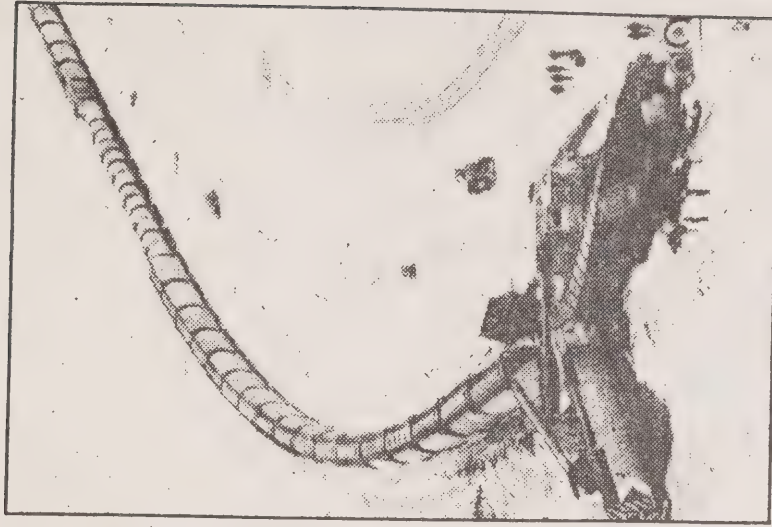
Railway officials, meanwhile, seem to think train mishaps are caused by technical malfunctions or happenstance. A CN Rail spokesman was quoted as saying the recent accidents were "probably more of a coincidence than a sudden lessening of safety." Coincidences are bound to happen, but surely Canadian National, Canadian Pacific and Via Rail cannot explain away all accidents that way.

In trying to improve safety, an important human dimension may be overlooked. Stress almost certainly played a significant part in at least one of last month's crashes. There may also have been technical problems, and regulations may have been disregarded in a way that laws would not have been. However, the impairment of human vigilance, communication and decision-making by stress is a more likely cause.

In the macho culture of the railways, stress is a taboo topic. Trainmen are not supposed to be affected by work-related or domestic stress. If they can't stand the heat, they're supposed to get out of the locomotive.

This attitude denies a basic fact of life that affects an estimated three-quarters of Canadian workers: turning a blind eye to the cause of more accidents than managers would like to acknowledge.

Handling stress is a vital part of a manager's job. Managers can and must design jobs and working conditions to ease stress levels. They can select employees with due regard for the types of stress involved in the work. They can



Law isn't enough to prevent wrecks.

train staff to handle stress, and provide appropriate supervision, systems and support to enable employees to perform at their best.

When will CP, CN and Via take stress seriously? When will they (and other employers who provide extremely stressful working conditions) realize that proper stress management can prevent disasters?

What is needed is not new safety legislation or better electronic microswitches and communication systems. What is needed is a change in the culture and working environment on the railways to reduce stress.

**CHEMA OF OHIO VOICES SUPPORT
LEGISLATION FOR TIGHTER REGULATION
OF HAZARDOUS MATERIALS OF
TRANSPORTATION**

"By enacting strong legislation such as House Bill 428, Ohio can move to the forefront of the nation in protecting our citizens from hazardous substance spills," commented Public Utilities Commission of Ohio (PUCO) Chairman Thomas V. Chema on the recent passing of legislation by the Ohio House of Representatives. If passed by the Senate, H.B. 428 would tighten regulation over the transportation of hazardous substances through Ohio. Due to geographical location and industry, Ohio ranks second in the nation for hazardous substance spills. Currently no regulation is required for the transportation of hazardous substances in Ohio by truck or train.

The Bill was introduced after the 1986 train derailment in Miamisburg, Ohio, by Representative C.J. McLin (D-Dayton) and would require registration of hazardous cargo carriers with the PUCO; create a fee structure to aid local emergency response units; require prenotification of shipments of pre-determined hazardous substances; and require approval of the route by the PUCO. The legislation would set up a uniform system of issuing fines for hazardous substance violations and, in addition, would enable the

PUCO to enact civil forfeiture proceedings against the carrier. The maximum fine would be \$10,000 per day per incident which compares with \$56.34 for the average fine for a hazardous substance violation in 1986.

"We urge the Ohio Senate to recognize the danger of transportation for hazardous substances and to act to protect the citizens of our state by passing H.B. 428," said Chema.

H.B. 428 has received a wide range of support from local and state governments.

Acid Leak in Texas Leaves a Residue of Questions

By PETER APPLEBOME

Special to The New York Times

TEXAS CITY, Tex. — After 4,000 people were evacuated as a result of a leak of hydrofluoric acid from a refinery, questions are still being asked about potential hazards here and in other cities where the same chemical is used.

Those questions center both on the long-term effects on those exposed to the Oct. 30 leak from the Marathon Petroleum Company here and on the degree of risk faced by workers and residents living near 68 plants around the country where the potentially lethal chemical is used. More than 1,000 residents were treated for eye and respiratory problems after a pipeline ruptured here, sending a cloud of gas into nearby residential neighborhoods.

Much of the concern here stems from charges by an environmental group that officials here and in other communities have not adequately alerted people to dangers posed by the chemical, which is used as a catalyst in refining. At news conferences here and in Washington, the Environmental Policy Institute compared the leak's potential peril to the accident at Bhopal, India, where more than 2,500 people were killed after a 1984 gas leak.

Fred Millar, a spokesman for the group, said that if the accident had released hydrofluoric acid in its more concentrated liquid form instead of as a gas, the accident could have killed thousands. The institute said the evacuation here was inadequate given risks involved.

Comparison Is Disputed

Marathon officials said a release of hydrofluoric acid had never resulted in a fatality and that the comparison with Bhopal was overblown and inappropriate. "It's obvious this was an entirely different situation than Bhopal," said Marathon spokesman, Ira Winsten, questioning the motives of anyone who would try to make that comparison.

But fears have spread in a community largely dependent on the ref-



The New York Times/Dec. 20, 1987

About 4,000 people were evacuated from Texas City after an acid leak at a refinery.

Environment group charges a failure to point up the danger.

eries that make up the town's economic base. "We want to be prepared next time," said Cathy Burd of the new group Keep Citizen Safe. "We've always been afraid, but now it's getting so bad I won't let them alone."

Doctors Are Optimistic

Marathon tried to allay fear by presenting its own physician, a local doctor and a Mexican doctor who said there was little chance that residents exposed to the accident would suffer any long-term effects.

Dr. Miguel Trevino of Matamoros, Mexico, said he had studied workers affected by far more severe exposure in a 1980 accident and found no lasting effects.

"Taking into consideration the lesser severity of the signs and symptoms observed in the Texas City patients, there is no reason to assume that any long-term effects will occur," he said.

But local health officials said that, in the absence of published scientific studies of exposure to similar leaks, a study of local residents was needed.

"My own feeling is that we know painfully little about the long-term effects of exposure," said Dr. Marvin S. Legator, director of the division of environmental toxicology at the University of Texas Medical Branch at Galveston. He said the biggest questions concerned effects on children.

Liquid Is Called Peril

More worrisome here and elsewhere is the question of risks posed by a liquid leak of hydrofluoric acid. Mr. Millar, citing a 1986 research study on toxic gases, said the dangers of a liquid leak



The New York Times/F. Carter Smith

The Marathon Petroleum Company refinery in Texas City, Tex.

are far greater than was originally believed. He said that 6 million to 12 million Americans in cities such as Houston, Los Angeles, Chicago and Philadelphia could be endangered by such a leak.

Dr. Ronald Koopman, program leader for liquified gaseous fuels at the Lawrence Livermore National Laboratory, who conducted the tests in the 1986 study for the Amoco Corporation, said the results were alarming and should be considered by industry and regulatory officials. He shied away from a Bhopal comparison but said the Texas City accident could have been worse, with considerable loss of life. Marathon officials said they were reviewing engineering controls but said there had been no risk of a liquid spill.

Officials in Texas City, scene of America's worst industrial accident, the 1947 explosion that killed 576 people, said the town's emergency response system had been ranked among the nation's best and that living with dangerous chemicals was a way of life there.

"This thing got blown out of propor-

tion by people coming in here and saying, 'What if,'" said Texas City's emergency management coordinator, George Stapleton. "This is not a resort town. This is industry."

Dr. J. W. O'Bryen, a local physician,

who treated victims of the leak, agreed that he people may have overreacted. But when asked whether people should be living as close as they are to the local refineries, he paused and said, "That's a good question."

Relocation has long history

Rail relocation — Regina's 41-year-old plan to move the Canadian National and Canadian Pacific railway lines and yards out of the city core — has been around so long, the city has had to update the plan's logo.

When CP laid down tracks around the settlement of Wascana (later to be renamed Regina) in 1882, pioneers built their town around the train station.

In 1887, the CN Craik and CN Regina Terminal Subdivisions were built and about 1907 the North Regina CN yard was built in the booming settlement.

For the next half century, the railways delivered all supplies to the city.

However, by 1946, Regina's "30-year development plan" recommended rail relocation to get rid of 20 dangerous level crossings where accidents were occurring.

Rail relocation was born.

By 1946 Regina's population was 42,000 — the current size of Lethbridge, which has already completed rail relocation.

It wasn't until 20 years later, however, that another major study recommended the relocation of several railway lines.

In 1970, Regina applied for federal money when it presented its concept for Global Railway Relocation for the first time to the Canadian Transport Commission.

Five years later, the city completed three relocation projects, allowing construction of highway interchanges at Victoria Avenue and the Ring Road and Arcola Avenue and the Ring Road, and also eliminating major level train crossings on Victoria Avenue at Park Street and Arcola Avenue.

But the plan for Global Railway Relocation was still to age over a decade before it came any closer to reality.

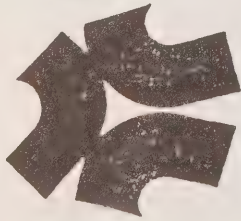
In 1974 the plan received a tremendous boost when the federal government passed the Railway Relocation and Crossing Act.

The act addressed the potentially adverse effects of railways on the quality of urban environments and their development.

It drew the steps a city should take for rail relocation provided the legal means for the federal government to contribute money and for the first time ever, gave the federal minister of public works power to expropriate railway lands.

Prior to the act, the railways had tremendous power — even the right

Old logo



New logo



to expropriate Crown lands.

In 1975, an agreement was reached by the city, the province and Ottawa to do a rail relocation study under the act.

The following year an international design competition was held for redevelopment of the Dewdney Avenue CP yard. The work of Paris architect Michel Dupuy was chosen. Also during 1976, a consortium of planners under Paron Myers prepared a redevelopment scheme of the CN Railway yard site, which is around 1st Avenue.

But those plans, now a decade old and out of date, will never be used.

Meanwhile, smaller projects were carried out.

In 1979-80, the city completed a fourth relocation project by moving the CN Lewvan line and building Lewvan Drive.

In 1978, the city, supported by the province, presented its plans for Global Rail Relocation to the federal transport minister.

Three years later and three federal governments later, Ottawa committed \$23.75 million (1981 dollars) to Phase 1, plans to move the CN Railways.

In 1982, the city created a rail relocation office to prepare the applications to the transport commission, which included doing an environmental impact statement on the best of five options for the relocation of railway tracks.

On March 31, 1984, the city finally made the formal application to the commission for Phase 1.

But the public hearings on the application didn't begin until late last year.

Between 1984 and November 1986, the commission set up a technical committee to try to resolve as many issues as possible before the city and the railway companies battled it out during the public hearings.

However, only half of the list of about 80 issues were resolved by the technical committee.

"Neither side was willing to bend much," said Ed Zsombor, acting director of the city's rail relocation office.

"This is the first time around for everyone. There are a lot of legal principles involved," he explained. The railways are doing their best to test every issue.

Since Regina filed the application for rail relocation, the railways have had the city in court more than 20 times, arguing, among other things, that the transport commission doesn't have the right to hear the application.

The railways lost that battle.

In the meantime, the hearings, which resumed Feb. 17, are carrying on at a crawl.

It is as if both sides are looking for a lost cart on a long, long gravel road.

DUNDAS

Interior pedestrian street

The Galleria retail centre will bring the street inside on a cold day. The Galleria will link a series of grand public lobbies, including the lobbies of office developments and the lobby of a possible Union

Station Hotel. Stores, cafes, restaurants, boutiques and offices line the Galleria, while extensive skylighting gives the daylight and atmosphere of the street without the inclement weather.

Big things planned for inner core

of Vancouver.

Among ambitious residential and commercial projects is planned a "festival market square" north of the union station building.

It will be the focus of "commercial, cultural and community activity." In summer the square will be overtaken by activities extending outward from the shops, restaurants, the hotel and the specialty retail Festival Market. In winter the square will open up for cars to park. Residential apartments above the shops and restaurants overlook the square.

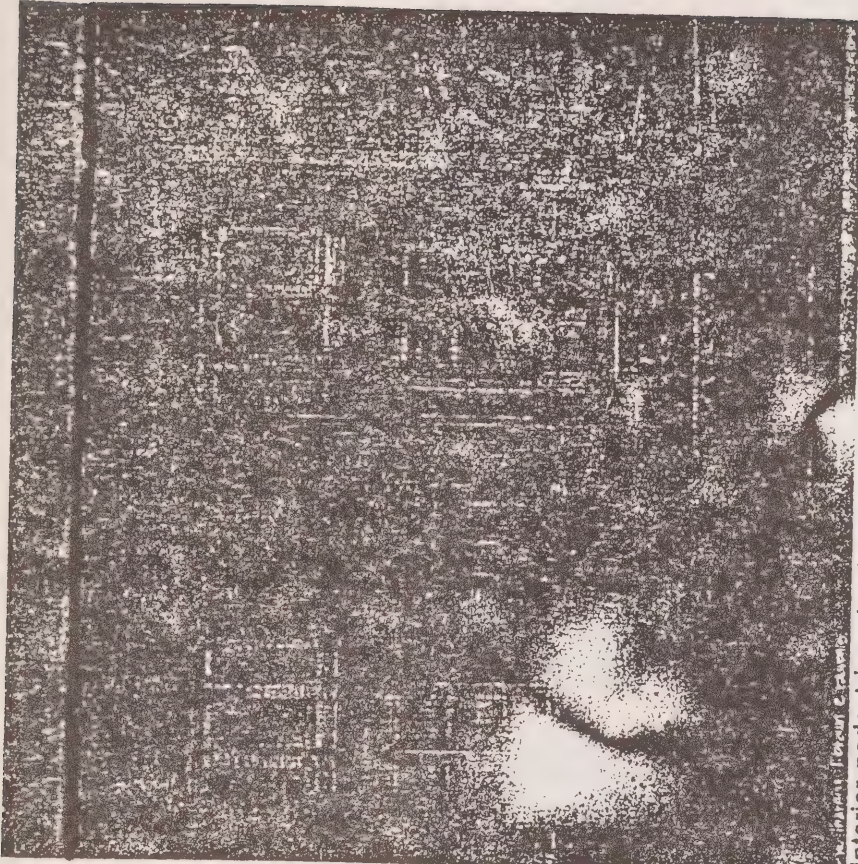
Taylor Field will be connected to downtown's 11th Avenue with a special boulevard and Saskatchew

Drive will be a grand tree boulevard.

From about Osler Street to Winnipeg Street, the city plans to develop East Park neighborhood.

The picturesque landscape park will feature a retention pond that is part of the storm water system for the site. In winter, the pond will be a perfect skating spot — just a few steps from the warmth of home or from the recreation centre and school at the end of the park — a brochure promoting Renaissance Regina says.

The extensive plans also include Smith Street Square, a interior pedestrian street, courtyards, crescent park and union station square. — DU DAs



Third Page

Rail relocation is a tough fight

By Colleen Dundas
of The Leader-Post

It seems like it took less time to build train tracks across Canada than it's taking to move the tracks out of Regina's core.

Rail relocation was first recommended in 1946 and the first plan was conceived in the early 1960s.

It's now two decades later and at long last, Regina has made official application to relocate the Canadian National and the Canadian Pacific Railways.

Now it's up to the federal government, which is currently holding hearings, to decide when and how relocation will take place.

The problem is, the two railway companies don't want to move and have the boxing gloves on for every round of the Canadian Transport Commission's hearings.

The city and railways are now in round three of what has been called hearings for Phase 1 — moving the CN tracks and yards from the area around 1st Avenue, west of Pasqua Street to north of the city boundary. It is expected to cost \$84.7 million.

In June 1985 Regina applied to the Transport Commission for Phase 2 to move the CP tracks and yards from downtown to lines parallel with CN north of the city. By the time the project is finished it is expected to have cost \$78.7 million.

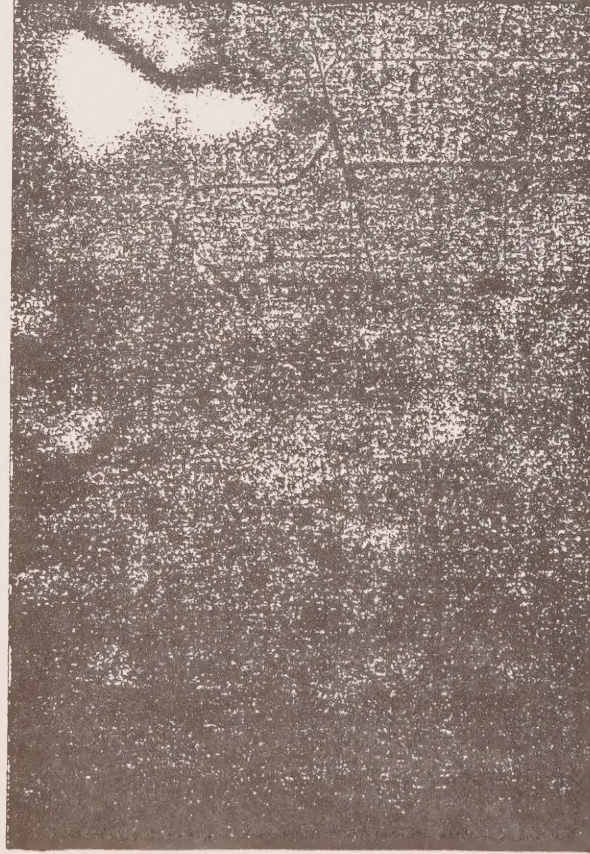
The reason for the hearings is the 1974 Railway Relocation and Crossing Act.

Prior to the act, cities had to negotiate with the railways to move their tracks, and of course, the railways wouldn't relocate unless they would profit from the move.

The Railway Relocation and Crossing Act changed that.

As Ed Zsombor, Regina's rail relocation acting manager, explained, the act gives urban municipalities and provinces the right to choose a new location for railways, and then apply to the Canadian Transport Commission to move the tracks.

The railways no longer have a



Phase 1 of the relocation plan

choice in the matter. The transport commission makes the final decision on how and where the train tracks will be moved and how the railway companies will be compensated.

"Now we don't have to negotiate a deal with the railways," said Zsombor, who worked for CP for about 10 years before taking on the contract position with the rail relocation office.

Despite not having to work out an agreement directly with the railways, the process under the new act is taking years.

This is the first time any city has applied under the act to move the railways, making Regina's case the

precedent.

So Regina and the railways, which likely will have to go through this again, want to make sure about absolutely every niggly little detail presented to the transport commission hearings.

The basic reason is money.

The act says the railways shall neither lose nor profit in the relocation — and the railways are taking every step possible to make sure they don't lose.

Since the city applied for rail relocation in 1984, CN and CP have had the city in various federal courts (trial division, appeal division and the Supreme Court) more than 20 times over issues such as the trans-

He's long overdue for retirement. So are the city railway tracks. If the city doesn't move the tracks soon, upgrading the crossings will cost \$86.3 million.

In the end, upgrading will cost the city about \$50 million more than relocation because the federal and provincial governments will contribute to relocation but not upgrading crossings.

Zsombor said that for Phase 1, the city and province will each pay \$23.6 million; the federal government will pay \$25.6 million, CN Rail will pay \$8.9 million; and CP will pay \$3 million.

The city will pay the majority of the costs for Phase 2 of rail relocation, but the majority of that expense will be recouped when the city sells the released railway lands.

But in the meantime, the tracks — criss crossed as they are through all sorts of headaches for the population of Regina.

Moving traffic around the tracks has always been a problem, but as the population grows, the problem has been getting worse, according to Regina's urban development plan.

Opposition to railway relocation has mostly come from the railways, but during the January hearings, MLA John Solomon (NDP — Regina North West) stirred up opposition from residents of his riding who are afraid the relocated tracks are too close to their homes.

Earlier opposition by Uplands residents convinced the city to move the tracks farther north, but Zsombor said the new railway lines can't go any farther north.

The final option chosen is 1,000 feet (about 300 meters) north of the city boundaries and a couple of blocks from Zsombor's house. Zsombor says he has no problems with the future location of the railway tracks if it is approved by the



Ed Zsombor

Transport commission after the hearings.

The distance is far enough that a natural sound and sight barrier, such as hills and trees, can be built.

If the railway tracks were built any farther north, they would run into the Boggy Creek Valley and would also run a major recreational area that is planned.

Building the railway tracks farther north would also put the CP lines out of line with the relocated CP yards, according to the city's Transportation Plan.

That plan was approved conceptually by city council almost 10 years ago.

Several other studies have been done into the new location of the tracks, all coming up with the same location for the relocated tracks, Zsombor said.

